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LAKE ERIE INTERNATIONAL JETPORT MODEL FEASIBILITY INVESTIGATION--ETC(U)
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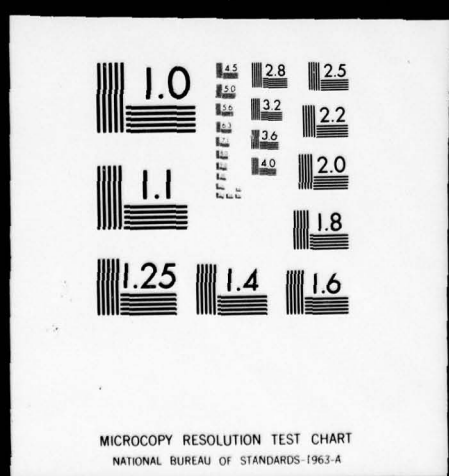
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LAKE ERIE INTERNATIONAL JETPORT MODEL FEASIBILITY INVESTIGATION

Report 17-7

RESULTS OF NUMERICAL STEADY-STATE, WIND-DRIVEN CIRCULATION ANALYSIS

by

Donald L. Durham, H. Lee Butler

Hydraulics Laboratory

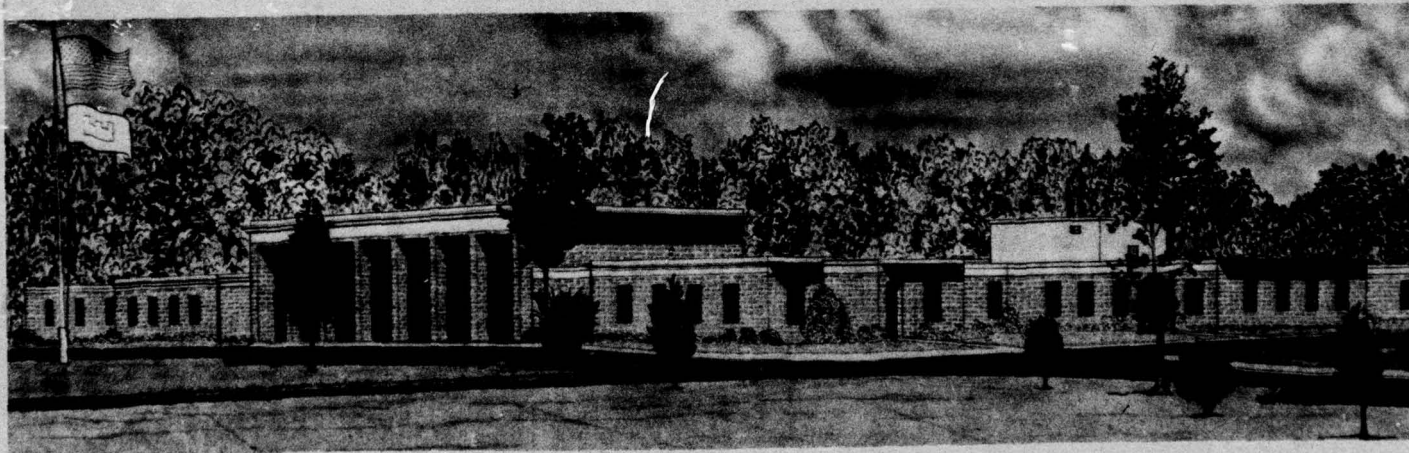
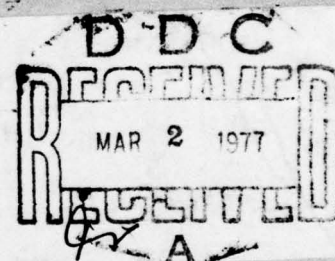
U. S. Army Engineer Waterways Experiment Station
P. O. Box 631, Vicksburg, Miss. 39180

February 1976

Report 7 of a Series

(Main Text and Appendixes A-C)

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Prepared for Lake Erie Regional Transportation Authority
Cleveland, Ohio 44113

Under Task 17 of LERTA Second-Phase
Airport Feasibility Study

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20. ABSTRACT (Continued)

presents the results of the circulation study and briefly summarizes the hydrodynamic model used. Included in the data are stream function contours, horizontal and vertical velocities at various depths for the entire lake and for the nearshore area. Also included are differences in velocity components and in velocity magnitude with and without the jetport island included in the study. Among the conclusions of the study based on the results of the parametric study were that the effect of the jetport island on lake circulation is not appreciable except within 2 to 3 miles of the island and that the larger wind speed resulted in a slight increase in the surface area over which velocity perturbations were found and an increase in intensity of those perturbations very close to the island.

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PREFACE

The numerical, steady-state, wind-driven circulation study of the effect of a proposed offshore airport on steady-state circulation in Lake Erie near Cleveland, Ohio, was sponsored by the Lake Erie Regional Transportation Authority (LERTA), Cleveland, Ohio, as a part of the model feasibility investigation being conducted at the U. S. Army Engineer Waterways Experiment Station (WES). The WES investigation, Task 17 of the LERTA investigation, is a portion of the second-phase airport feasibility study undertaken by LERTA to evaluate proposed airport sites, one of which is in Lake Erie near Cleveland.

This report and the numerical analyses were prepared and conducted by Dr. Donald L. Durham and Mr. H. Lee Butler of the Wave Dynamics Division (WDD), WES, under the general supervision of Dr. R. W. Whalin, Chief, WDD, and Mr. H. B. Simmons, Chief, Hydraulics Laboratory. Assisting in this study were Messrs. D. G. Outlaw and C. W. Coe, WDD, and Dr. Donald C. Raney, who was working with WDD while on loan from AME Department, University of Alabama through the Intergovernmental Personnel Exchange Program.

The Director of WES during the conduct of this investigation and the preparation and publication of this report was COL G. H. Hilt, CE. Technical Director was Mr. F. R. Brown.

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CONVERSION FACTORS, U. S. CUSTOMARY TO METRIC (SI)
UNITS OF MEASUREMENT

U. S. customary units of measurement used in this report can be converted to metric (SI) units as follows:

<u>Multiply</u>	<u>By</u>	<u>To Obtain</u>
inches	2.54	centimeters
inches per second	2.54	centimeters per second
inches ² per second	6.4516	centimeters ² per second
pounds	4.448×10^5	dynes
feet per second	0.3048	meters per second
miles	1.6093	kilometers per hour
miles per hour	1.6093	kilometers per hour

PART I: INTRODUCTION

1. The Lake Erie Regional Transportational Authority (LERTA) is conducting a feasibility and site selection study for a major hub airport in the Cleveland Service area. One of the possible sites being evaluated is an offshore site in Lake Erie near Cleveland, Ohio. As a part of the feasibility analysis of an offshore site, the U. S. Army Engineer Waterways Experiment Station (WES) conducted a model feasibility investigation and is performing numerical model studies. The results of these efforts are being published in a series of reports under the general title "Lake Erie International Jetport Model Feasibility Investigation." This miscellaneous paper presents preliminary results of the numerical steady-state, wind-driven circulation analyses for a lake of constant density. These data are the results of a parametric study (wind-direction and speed) of the steady-state, wind-driven circulation with and without a jetport island in Lake Erie near Cleveland, Ohio.

PART II: HYDRODYNAMIC MODEL

2. From earlier efforts of WES in the model feasibility study, the numerical model which is used in this study was selected¹ from several numerical steady-state, wind-driven circulation models and applied² to test cases of a jetport island offshore of Cleveland in Lake Erie. Details of the hydrodynamic model and the development of the finite difference scheme for this model are presented in References 1 and 3. A cursory statement of the hydrodynamic model and assumptions are presented here as a brief summary of the model.

3. The governing partial differential equation for the integrated stream function ψ^* is the following Poisson equation:

$$\nabla^2\psi + \sigma_1\psi_x + \sigma_2\psi_y = \sigma_3 \quad (1)$$

where σ_1 , σ_2 , and σ_3 are functions of local depth and bottom slope of Lake Erie. Also, σ_3 is a function of wind stress. Detailed definitions of these functions and the complete development of the equations can be found in References 1, 2, and 3. The integrated stream function ψ is defined by $U = \partial\psi/\partial y = \psi_y$ and $V = -\partial\psi/\partial x = -\psi_x$ where U is the vertically integrated velocity component in the direction of the x axis and V is the vertically integrated velocity component in the direction of the y axis. The boundary condition for this problem is that ψ be constant along the shore.

4. To numerically solve the stream function problem, the governing partial differential equation (Equation 1) is approximated by finite differences⁴ at a discrete number of grid points within the flow field of Lake Erie. Plates 1 and 2 depict the discretized grids for the entire Lake (two-mile grid spacing) and for the 12-mile by 12-mile nearshore area (0.25 mile grid spacing) near Cleveland, Ohio. The finite difference approximation of Equation 1 at a finite number of grid points produces a finite set of simultaneous equations governing ψ . This set of simultaneous equations is solved iteratively by a successive

* For convenience, symbols and unusual abbreviations are listed and defined in the Notation (Appendix A).

over relaxation method to determine at each grid point a value of ψ , which satisfies the partial differential equation (Eq 1) and the specified boundary condition. Knowing the stream function, the pressure, surface displacement, and vertically integrated velocity components can be obtained.

5. For the u and v components of horizontal velocity, Gedney developed³ analytical expressions, which are functions of lake depth, wind stress, gradient of surface displacement, and vertical distance, z , from the still water level. Thus, by knowing ψ the horizontal velocity can be determined at any depth in the water column. Using Gedney's expressions of u and v and integrating in closed form the continuity equation, an analytical expression for the vertical component, w , of velocity can be obtained as a function of wind stress, lake depth, surface displacement, and z . Therefore, the complete three-dimensional flow field can be determined.

6. For this numerical study of the effects of a proposed jetport island on the steady-state, wind-driven circulation for well-mixed conditions in Lake Erie, the bottom topography, wind stress, and various other characteristic parameters must be specified as input to the study. Discrete values of the bottom topography of Lake Erie were obtained for each grid point of the two grids shown on Plates 1 and 2. For the entire Lake (Plate 1), discrete values of depths were obtained from Lake Survey Center Charts as published by the U. S. Army Corps of Engineers. Reference 3 outlines the procedure with which these values were read from charts, interpolated and smoothed. Contours of the resultant, discretized bottom topography for the full Lake are depicted in Plate 3. For the finer nearshore grid (Plate 2), discrete values for depth were obtained by interpolating over the larger full lake grid. Near the shore (within 5 miles), additional information as to the bottom topography and any abrupt changes in depth was obtained from other available maps. Contours of the resultant, discretized bottom topography for the nearshore grid are depicted in Plate 4.

7. The wind data used in this study of the steady-state, wind-driven circulation are based on an analysis (Reference 5) of wind

conditions offshore of Cleveland, Ohio. Ten years of recorded wind data from Burke Lakefront Airport and Cleveland Hopkins Airport were analyzed by A. H. Glen & Associates⁵ to obtain average monthly and annual wind speed direction regimes and percentage frequency of occurrence for two off-shore stations near the proposed jetport site. For this steady-state study, the lake water is assumed to be isothermal, which implies constant density. This condition in Lake Erie generally exists³ from late September through May. On the basis of the wind study,⁵ two wind magnitudes (17 mph and 35 mph) were chosen as representative of average and extreme wind conditions during the time period from late September through May. Winter winds in the Cleveland area most frequently are from south to west-southwest. However, the wind direction for this study was considered a parameter and for each of the two wind magnitudes was varied in 22.5° increments from 0° to 360°. Therefore, 16 wind directions for each wind magnitude were considered in the numerical study. For each wind field (magnitude and direction), the wind shear stress, $\hat{\tau}$, is determined by

$$|\tau| = 0.00273 \rho_a W_a^2 \quad (2)$$

where

ρ_a = density of air,

W_a = wind velocity in m/sec,

and 0.00273 is the drag coefficient by Wilson's⁶ formulation.

8. The inflow and outflow of the major rivers for Lake Erie are considered in specifying the boundary value of the stream function along the shore. The major rivers which account for the through-flow of Lake Erie are the Detroit, Maumee, Sandusky, and Niagara. Although the inflow of the Cuyahoga River has only a small local effect on the Lake circulation, this effect is of interest to this study. Thus, the Cuyahoga River inflow is also considered in specifying the boundary condition. The boundary condition is that the stream function ψ along the shore is a specified function, $\psi = \psi(s)$, of the shoreline

To account for river discharge in specifying $\psi(s)$, the stream function along some portion of the shore is arbitrarily set to a constant (e.g. 0.0) with changes $\Delta\psi$ in the specified value of the stream function occurring at the mouth of major rivers and representing the volume flow rate of river inflow or outflow. Rivers and average volume flow rates used in this study are present in Table 1.

9. In the non-dimensional formulation of the equations of motion^{2,3} various characteristic parameters are defined and are used in scaling the non-dimensional results of the numerical study. A list of the pertinent parameters and the values used in this study is presented in Table 2. In addition to these characteristic parameters, the frictional depth D vertical eddy viscosity A_v , and the magnitude $|\tau|$ of the wind shear stress are dependent on the magnitude of the forcing wind. Calculated values of 75 ft and 115 ft for D , $27 \text{ cm}^2 \text{ sec}^{-1}$ and $60 \text{ cm}^2 \text{ sec}^{-1}$ for A_v , and 1.9 dyne cm^{-2} and $8.55 \text{ dyne cm}^{-2}$ for $|\tau|$ were used respectively for wind speeds of 17 mph and 35 mph.

PART III: RESULTS OF NUMERICAL STUDY

10. The results of the numerical steady-state, wind-driven circulation analysis of the effects of a proposed jetport island on circulation in Lake Erie are presented graphically as Appendices B and C. The steady-state wind conditions considered in the analysis are 16 wind directions at 22.5° increments from 0 to 360° with wind speeds of 17 mph and 35 mph. For 9 of the 16 wind directions (direction from which wind is blowing), the results have been consolidated on data plates and are presented as Appendix B. These results in Appendix B are grouped by wind speed (17 mph results first) and direction in the following order:

- East
- North
- Northwest
- West
- West southwest
- Southwest
- South southwest
- South
- South southeast

For each of these directions and magnitudes, ten data plates are presented. The wind speed and direction are given on each data plate, e.g. 17 mph E (17 miles per hour from the east). The data on each plate for a specific speed and direction are as follow:

Plate 1: Stream function contours and horizontal velocities for Lake Erie.

Note: The stream function contours are vertically integrated. The horizontal velocities are at the lake surface and at the 5-ft depth.

Plate 2: Horizontal velocities at the 10-, 20-, 40-, and 60-ft depths (for the full lake).

Plate 3: Vertical velocities at 10-, 20-, 40-, and 60-ft depths (for the full lake).

Note: The stream function contours are vertically integrated. The full lake solution has been used as an offshore boundary condition for the nearshore grid solution.

Plate 5: Nearshore horizontal velocities at 0-, 10-, and 15-ft depths.

Plate 6: Nearshore horizontal velocities at 20-, 30-, and 40-ft depths.

Plate 7: Nearshore vertical velocities at the 10-, 20-, and 30-ft depths.

Note: The length scale for the velocity magnitude has been increased by the amplification factor shown.

Plate 8: Nearshore contours of differences in velocity components or magnitude at a depth of 0 ft.

Note: The direction of the U component of the velocity is along the grid line approximately parallel to the shoreline shown on the plot. The direction of the V component of the velocity is along the grid line approximately perpendicular to the shoreline. The velocity difference was obtained by subtracting the velocity calculated with a jetport island in the Lake from the velocity calculated without a jetport. The velocity magnitude, M, difference was obtained in the same manner but without regard to direction.

Plate 9: Nearshore contours of difference in velocity components or magnitude at a depth of 15 ft.

Note: Same comments as for Plate 8.

Plate 10: Nearshore contours of differences in velocity components or magnitude at a depth of 30 ft.

Note: Same comments as for Plate 8.

11. For the remaining seven directions, consolidated data plates are not prepared; however, the same information is available from plots of the original data. These plots, reduced in size, are presented as Appendix C. In a similar manner as Appendix B, the data in Appendix C are grouped (1) with the 17 mph wind speed plots for the east northeast, northeast, north northeast, north northwest, west northeast, southeast, and east southeast directions and (2) with plots of the 35 mph wind speed for the same directions. Forty plots are included for each of the wind speeds and directions. Table 3 cross references plots in Appendix C with data plates and associated comments of Appendix B.

12. The numerical model², which was developed at Case Western University to compute steady-state, wind-driven currents for the full lake and nearshore region of Lake Erie, consisted of eleven separate codes. WES combined these eleven codes into two jobstreams for efficient execution on a GE 635 computer. In addition to converting these codes, WES added contouring and plotting routines. The first jobstream obtains a solution for the full lake. The second jobstream obtains a solution for the nearshore region near Cleveland Harbor. A description of each activity, input/output requirements and definitions, flowchart, and deck setup are provided for each jobstream in Appendix D. Appendix D is bound and published separately.

PART IV: CONCLUSIONS

13. Based on the numerical results of the parametric study (wind direction and speed) of the effects of a jetport island on the steady-state, wind-driven circulation for constant density conditions in Lake Erie near Cleveland Ohio, it is concluded that:

- a. For all wind directions and magnitudes, the effect of the jetport island on lake circulation is not appreciable except within 2 miles of the island.
- b. Perturbations in the velocity field for the 17 mph and 35 mph wind fields are very similar with two exceptions for the 35 mph wind fields. These exceptions are (1) a slight increase in surface area over which the velocity perturbations are found and (2) an increase in intensity of these perturbations very close to the island.
- c. Two windows of wind directions (WNW through WSW and ESE through ENE) are characterized by the largest perturbations (both magnitude and areal extent) in the velocity field due to the effects of the jetport island.
- d. Wind from the N or S directions generate circulation patterns which possess minimum effects associated with the jetport island.
- e. For the above two wind-direction windows, the maximum effect (relative to other wind-directions) of the island on the steady-state circulation patterns in the nearshore region is due to the island location being in a region of large net mass flux. Thus, the island's presence in such a region produces substantial blockage of the net flow. Comparisons of plots of streamlines for each wind condition vividly demonstrates this result (e.g. streamlines for 17 mph W results versus streamlines for 17 mph N results).
- f. During the winter winds or well-mixed lake conditions (September through May), winds occur only 8 percent

of the time from the ENE-ESE window and 22 percent of the time from the WSW-WNW window⁵. Annual frequency of occurrences for these windows are 8 and 19 percent respectively. The most frequently occurring wind directions are contained in a window from SSE to SW with an annual frequency of occurrence of 42 percent and 42 percent for winter wind conditions. Thus, for the well-mixed lake conditions, the two wind-direction windows which are characterized by maximum island effects do not possess the most frequently occurring wind directions and have low frequencies of occurrence. Therefore, the maximum effects of the island on the steady-state circulation patterns will occur much less frequently than the smaller effects associated with other wind directions.

- g. For all wind directions, maximum horizontal velocity values at the lake surface between the jetport and the shoreline are 1.5 ft/sec for the 17 mph wind speed and 2.5 ft/sec for the 35 mph wind speed.
- h. The jetport effects in the horizontal velocity region near the shoreline in the vicinity of Cleveland, Ohio are estimated to be less than 0.1 ft/sec for all studied wind fields.
- i. Upwelling and downwelling along the shoreline in the vicinity of Cleveland, Ohio are affected very little, if any, with no changes in location along the shoreline of the areas of upwelling and downwelling and only slight changes for a few wind directions (i.e., W) in magnitude of vertical velocities in these areas.
- j. Around the perimeter of the island, areas of upwelling and downwelling are evident with the location of these areas depending on wind direction. The magnitude of vertical velocities are extremely small and of the order of 10^{-3} to 10^{-4} ft/sec.

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1. Raney, D. C., D. L. Durham, and H. L. Butler. "Lake Erie International Jetport Model Feasibility Investigation; Numerical Model Feasibility Study," Tech. Report, H-74-6, Report No. 17-4, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss.
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6. Wilson, B. W., "Note of Surface Wind Stress Over Water at Low and High Wind Speeds." Journal Geophysical Research, Vol 65, No. 10, Oct 1960, pp 3377-3382.

TABLE 1

Average River Discharges (cfs)

Cuyahoga	850
Detroit	160,000
Maumee	4,825
Sandusky	1,045
Niagara	-166,720

TABLE 2

Characteristic Parameters

H_m	Characteristic depth	18.2 m (60 ft)
L	Characteristic length	128.75 km (80 miles)
$ \tau_{ref} $	Reference wind stress	1 dyne cm ⁻²
f	Coriolis parameter	10^{-4} sec ⁻¹
U_{ref}	Reference velocity	5.47 cm sec ⁻¹

TABLE 3

Plot Cross-Reference

<u>Data Plate No.</u>	<u>Plot No.</u>
1	1-3
2	4-7
3	8-11
4	12, 13
5	14-19
6	20-25
7	26-31
8	32-34*
9	35-37*
10	38-40*

* The velocity component (U,V) or magnitude (M), depth (D), wind speed, and direction are labeled on plots 32-40 as U, D=0, W=17ENE to indicate that the plot is for the U velocity component; the depth is 0-ft; the wind speed is 17 mph; and the direction is east northeast, for example.

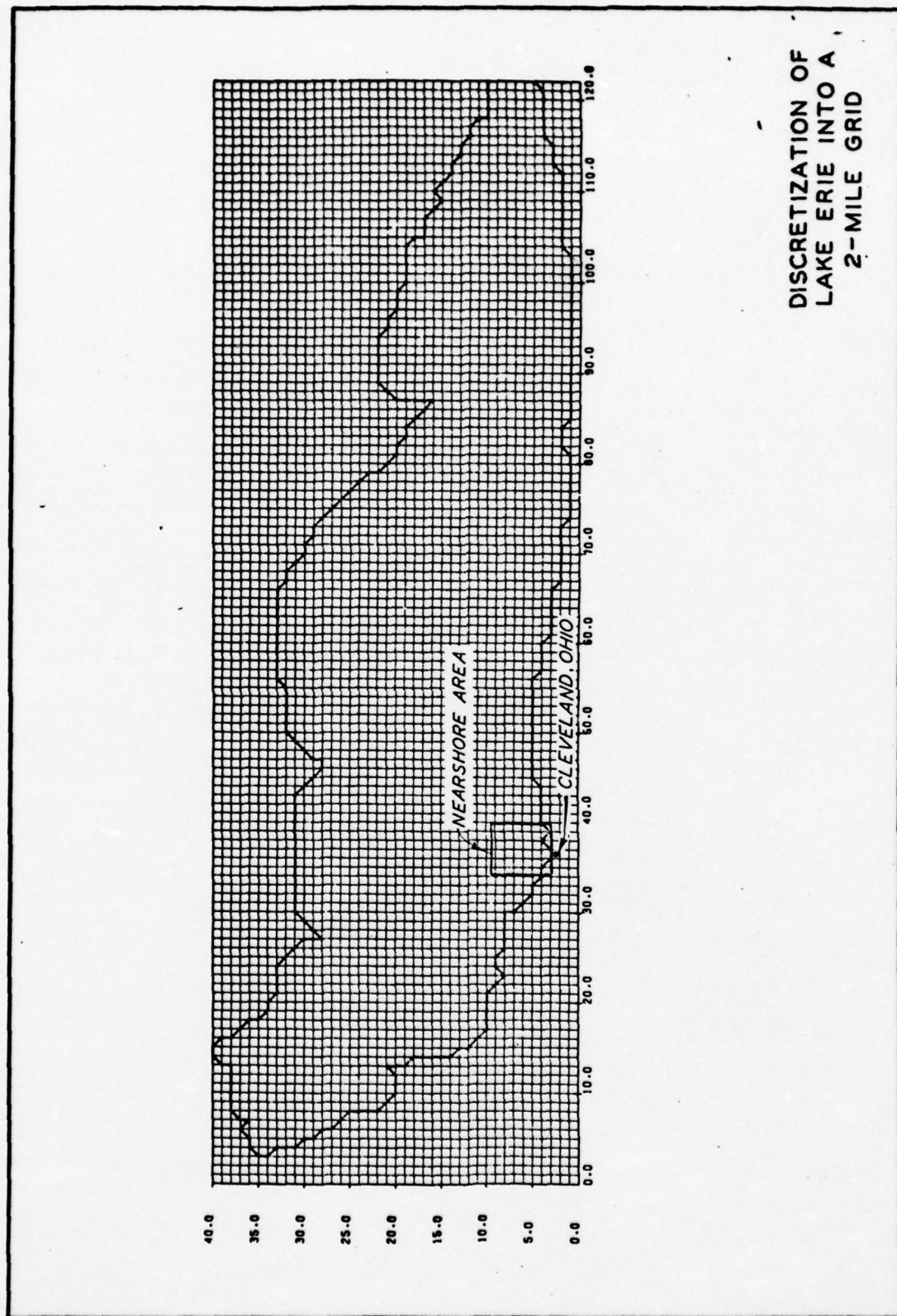
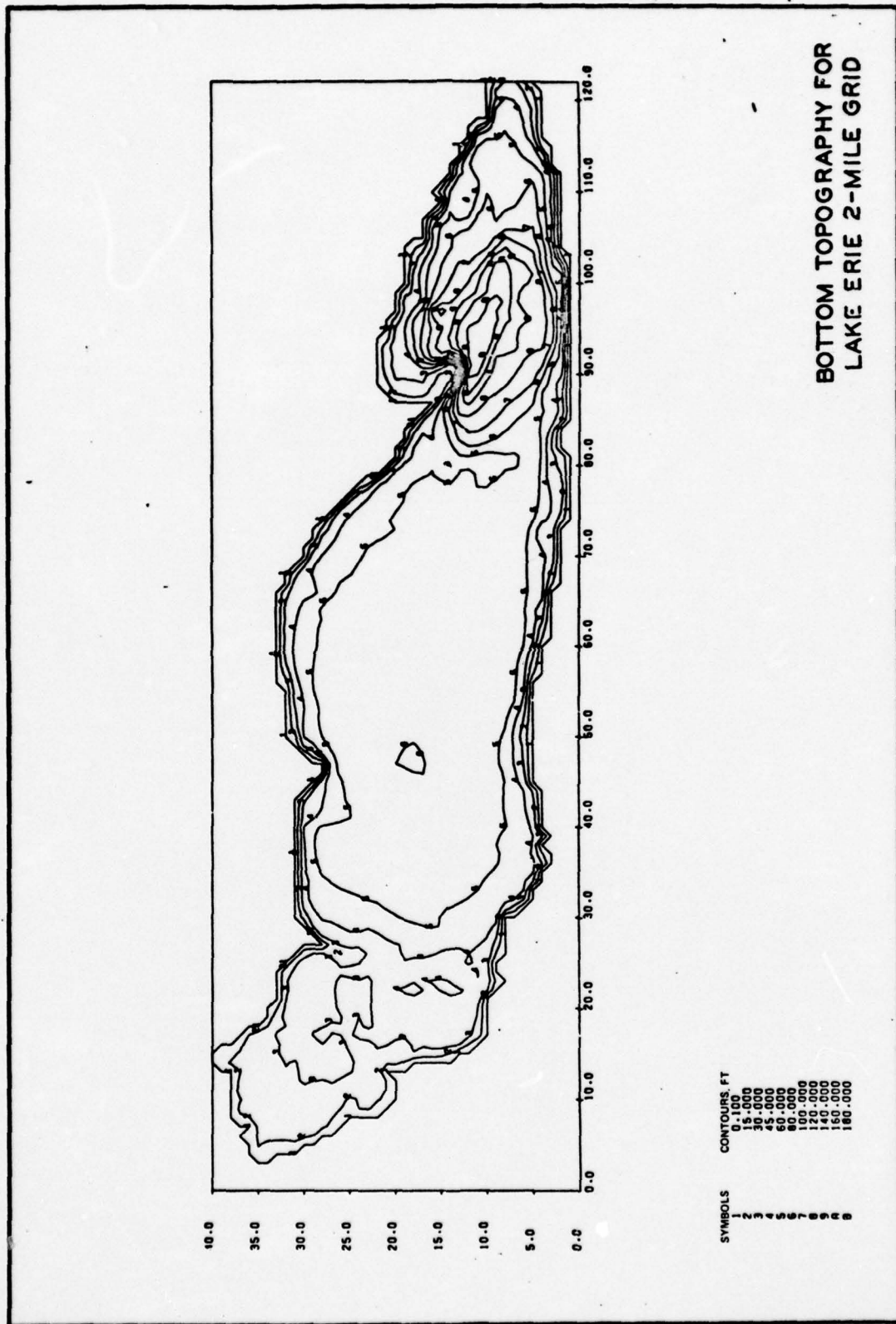
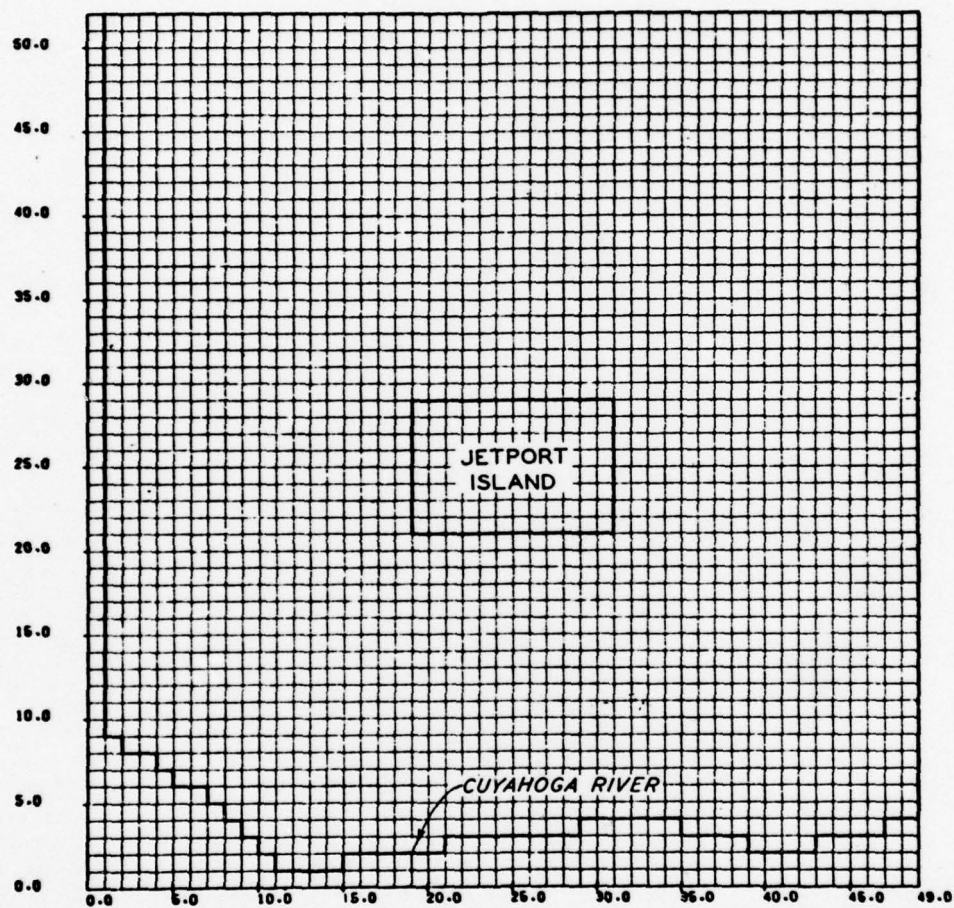


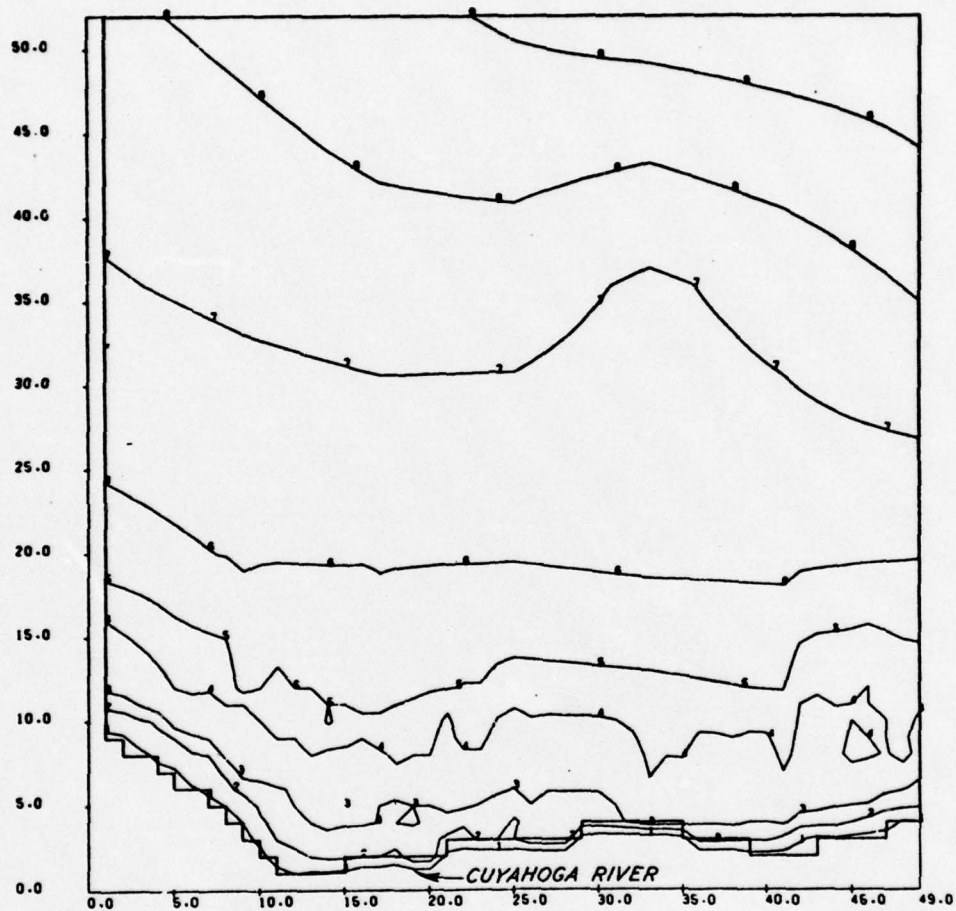
Plate 1



BOTTOM TOPOGRAPHY FOR
LAKE ERIE 2-MILE GRID



1/4-MILE GRID ON
CLEVELAND NEARSHORE AREA



SYMBOLS	CONTOURS, FT
1	8.000
2	20.000
3	30.000
4	40.000
5	45.000
6	50.000
7	55.000
8	60.000
9	65.000

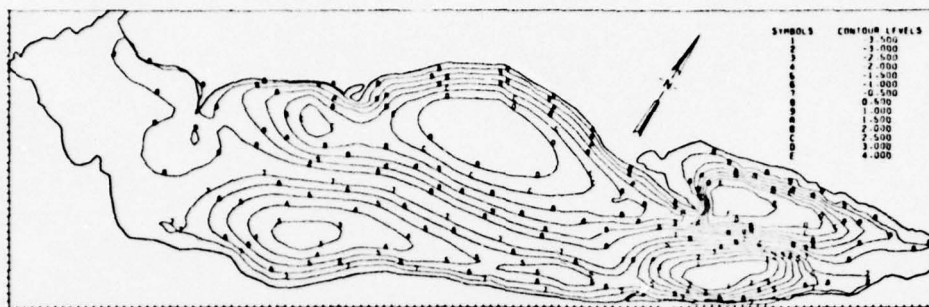
BOTTOM TOPOGRAPHY FOR
CLEVELAND NEARSHORE AREA

APPENDIX A: NOTATION

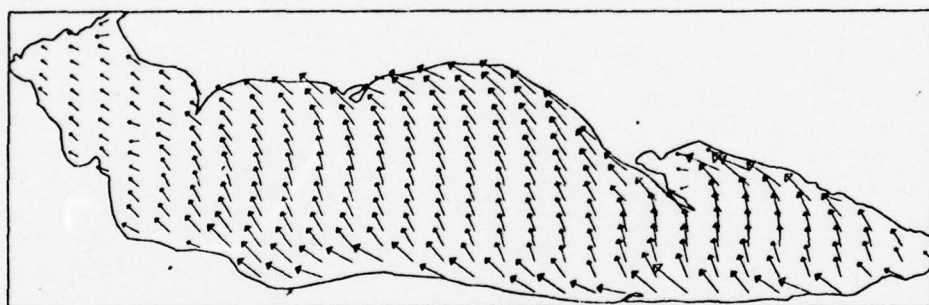
NOTATION

A_v	vertical eddy viscosity coefficient
D	frictional depth and lake depth
H_m	characteristic depth
L	characteristic length
u	horizontal velocity in x direction at given depth
U	vertically integrated velocity component in the direction of the x axis
U_{ref}	reference velocity
v	horizontal velocity in y direction at given depth
V	vertically integrated velocity component in the direction of the y axis
w	vertical component of velocity
W_a	wind velocity in m/sec
x, y, z	Cartesian coordinates
$\Delta\psi$	change in stream function
ρ_a	density of air
σ_1, σ_2	function of local depth and bottom slope of Lake Erie
σ_3	function of local depth, bottom slope, and wind stress of Lake Erie
$\hat{\tau}$	wind shear stress
$ \tau $	magnitude of wind shear stress
τ_{Ref}	reference wind stress
ψ	integrated stream function
$\psi(s)$	boundary value of stream function specified along the shore line
$\partial\psi/\partial x$	first derivative of ψ with respect to x
$\partial\psi/\partial y$	first derivative of ψ with respect to y
$\nabla^2\psi$	Laplacian of ψ

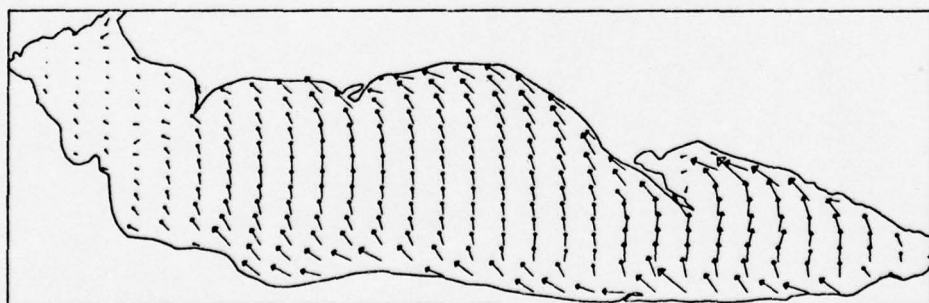
APPENDIX B: NUMERICAL RESULTS FOR
NINE WIND DIRECTIONS



CONTOURS OF NON-DIMENSIONAL STREAM FUNCTION



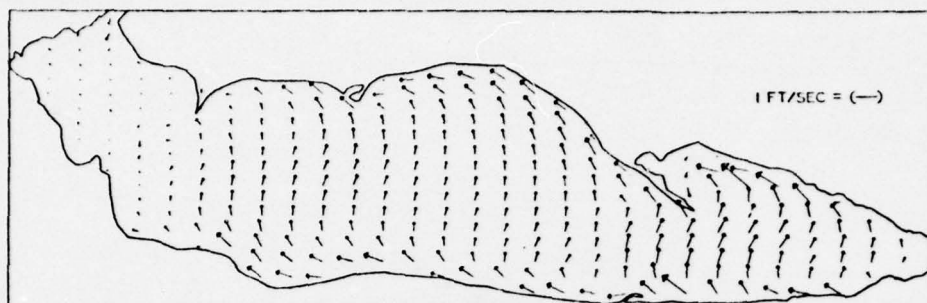
0-FT DEPTH



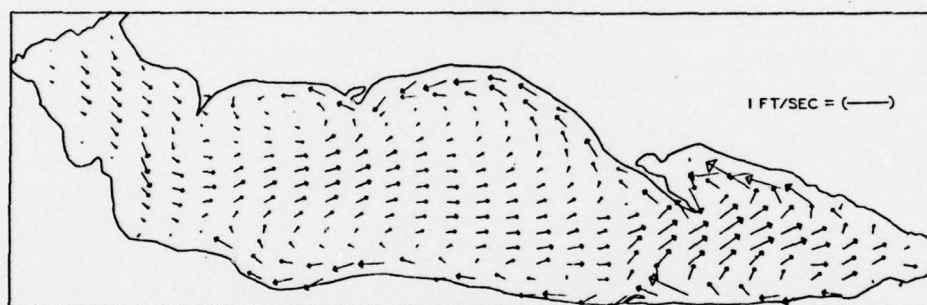
5-FT DEPTH
HORIZONTAL VELOCITIES
1 FT/SEC = (—)

STREAM FUNCTION
CONTOURS AND HORIZONTAL
VELOCITIES FOR LAKE ERIE

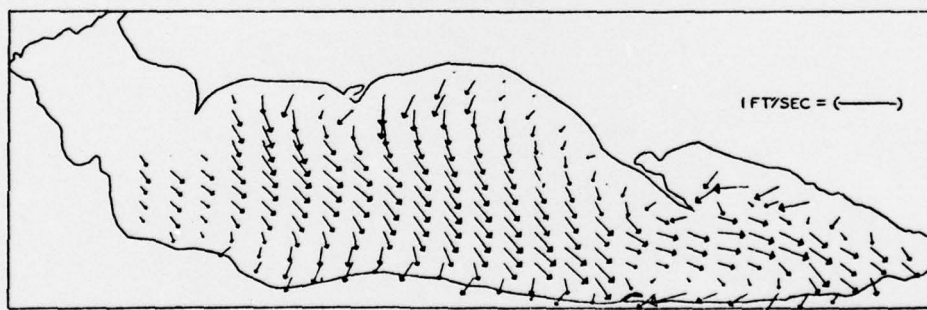
WIND SPEED AND
DIRECTION, 17 MPH E



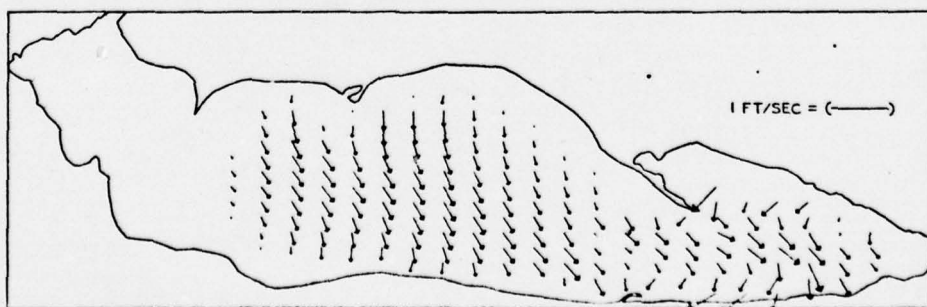
10-FT DEPTH



20-FT DEPTH

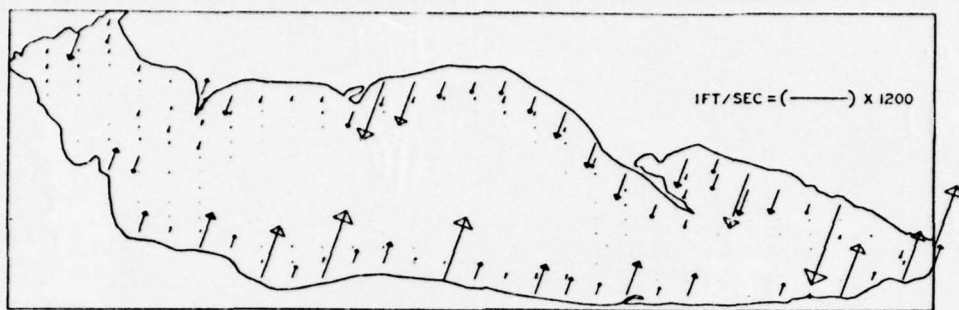


40-FT DEPTH

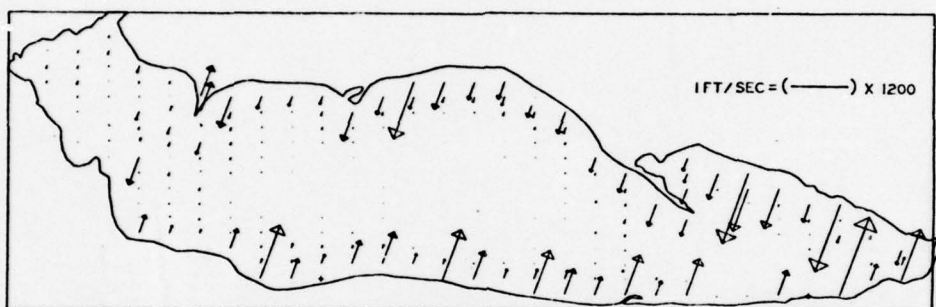


60-FT DEPTH

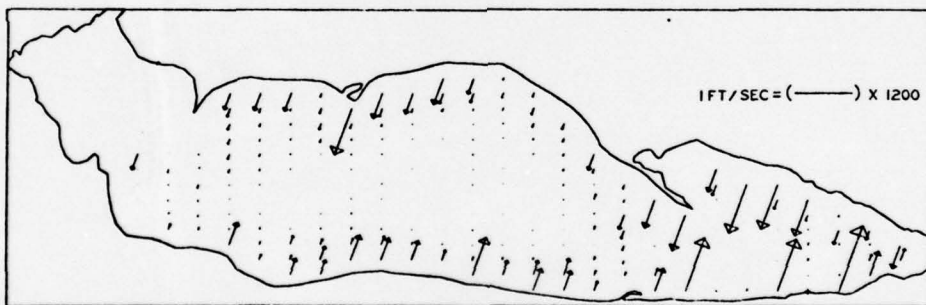
HORIZONTAL VELOCITIES AT
10-, 20-, 40-, AND 60-FT DEPTHS
WIND SPEED AND DIRECTION, 17 MPH E



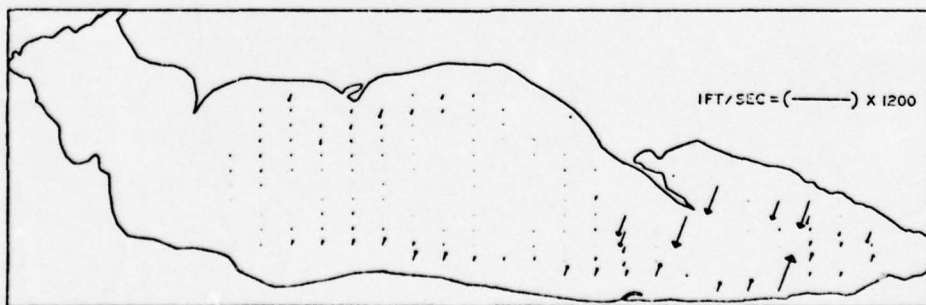
10-FT DEPTH



20-FT DEPTH

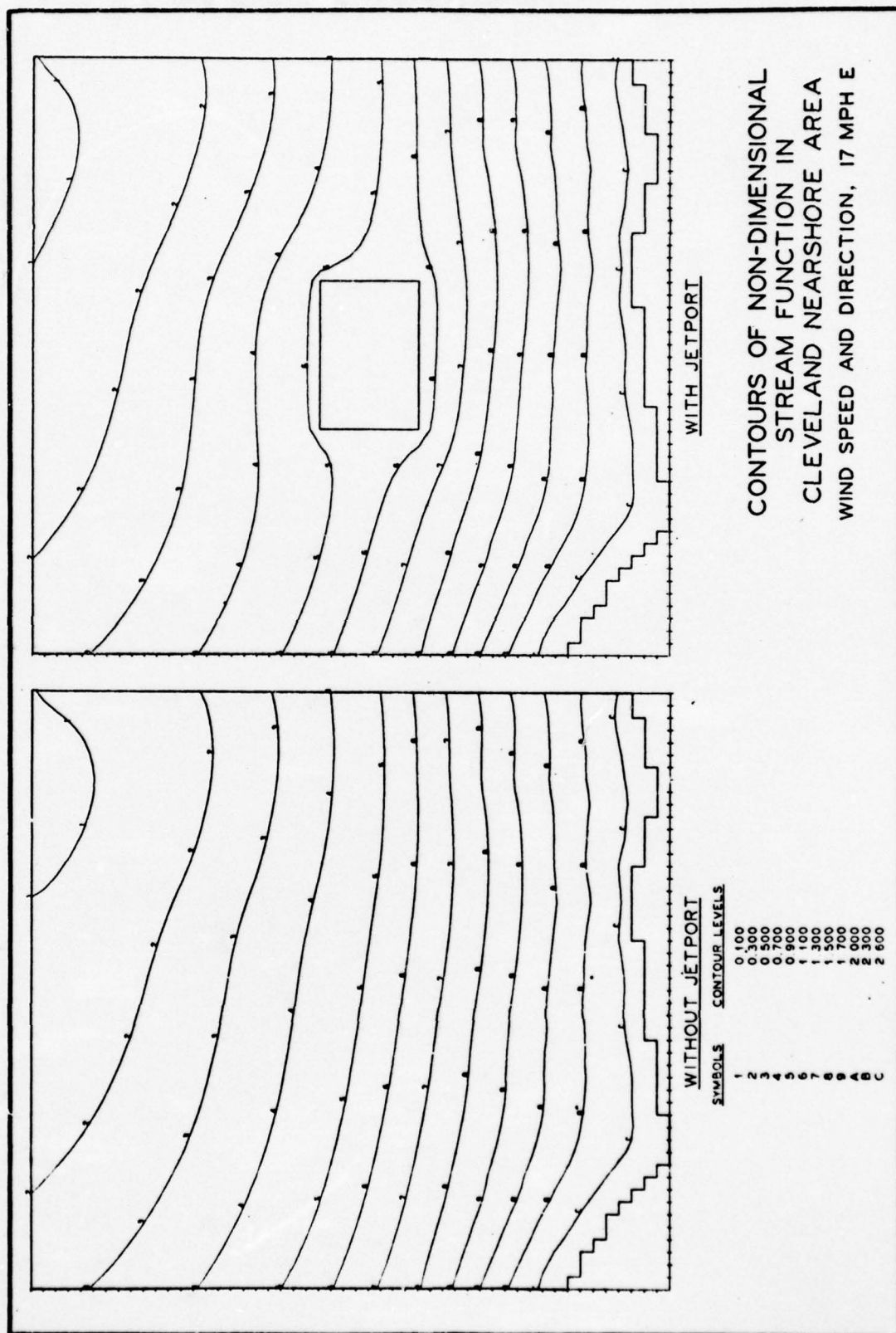


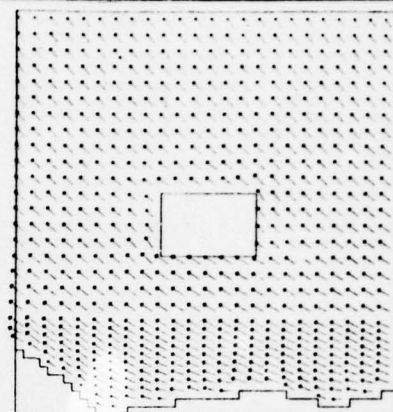
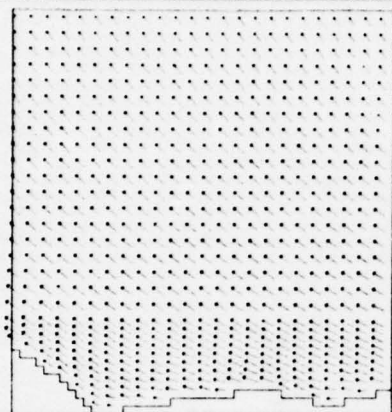
40-FT DEPTH



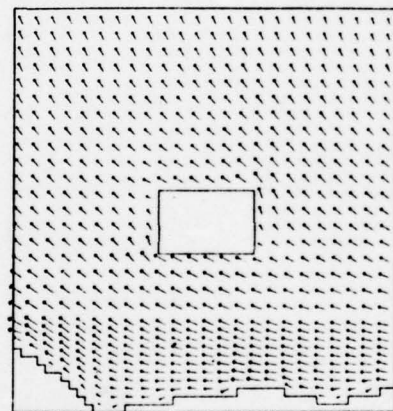
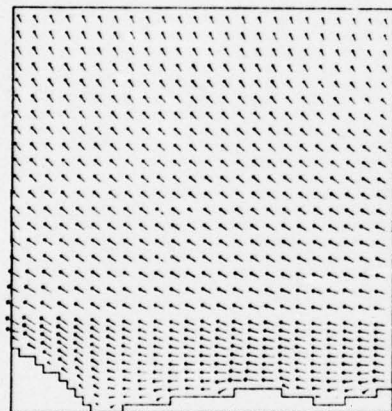
60-FT DEPTH

VERTICAL VELOCITIES AT
10-, 20-, 40-, AND 60-FT DEPTHS
WIND SPEED AND DIRECTION, 17 MPH E

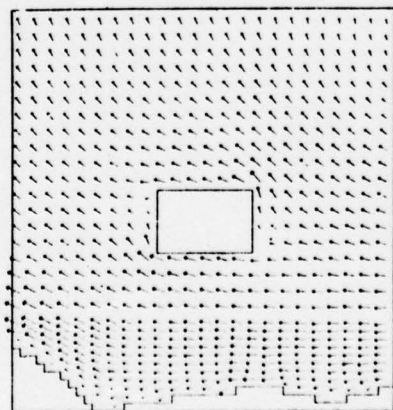
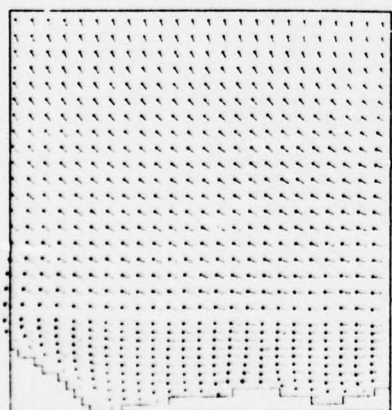




0-FT DEPTH
1 FT/SEC = (—)



10-FT DEPTH
1 FT/SEC = (—)



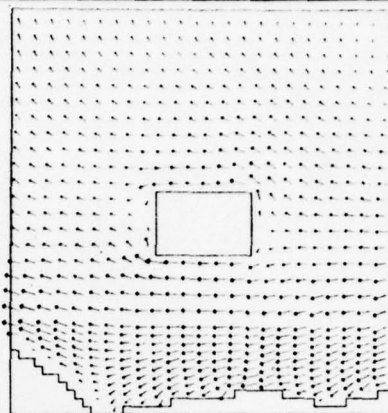
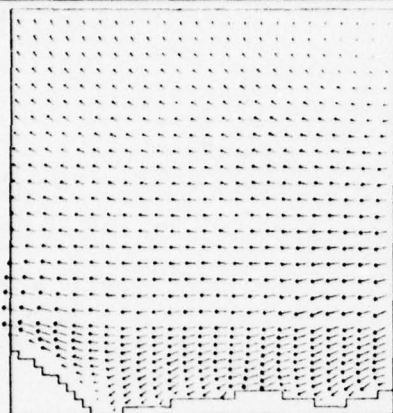
WITHOUT JETPORT

15-FT DEPTH
1 FT/SEC = (—)

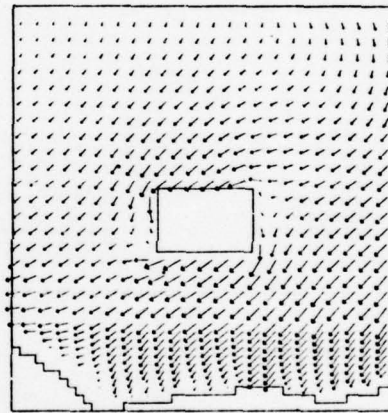
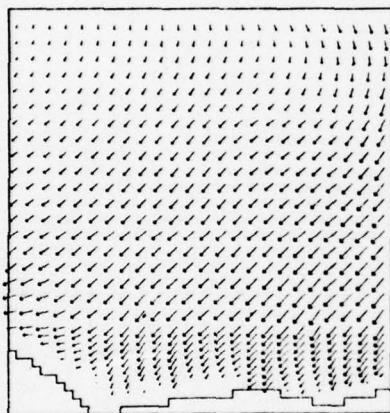
WITH JETPORT

NEARSHORE HORIZONTAL VELOCITIES
AT 0-, 10-, AND 15-FT DEPTHS

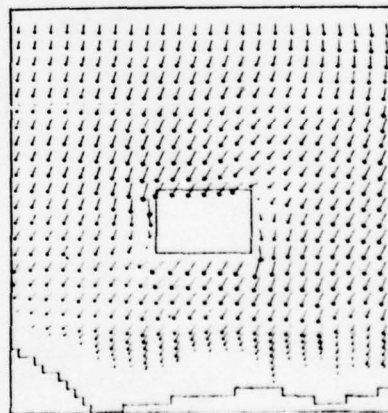
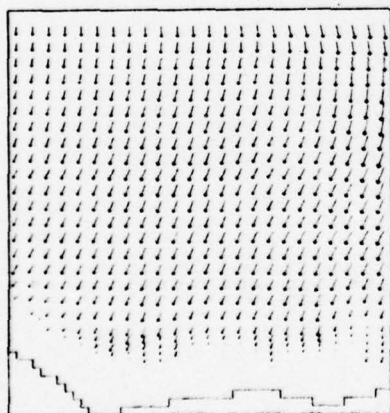
WIND SPEED AND DIRECTION, 17 MPH E



20-FT DEPTH
1 FT/SEC = (—)



30-FT DEPTH
1 FT/SEC = (—)



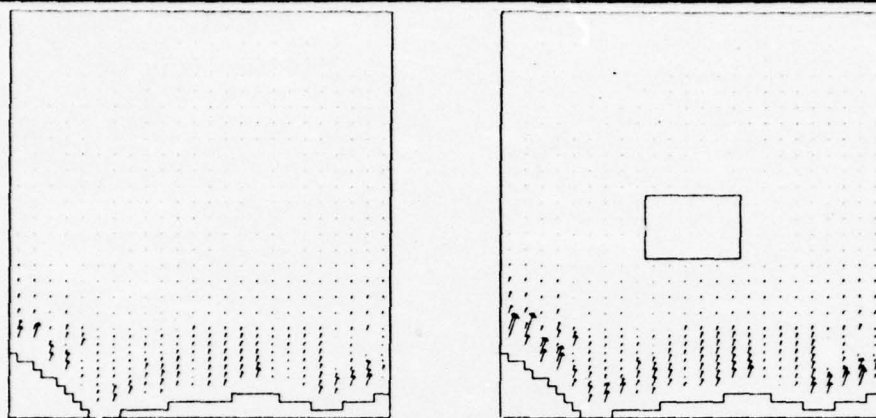
WITHOUT JETPORT

40-FT DEPTH
1 FT/SEC = (—)

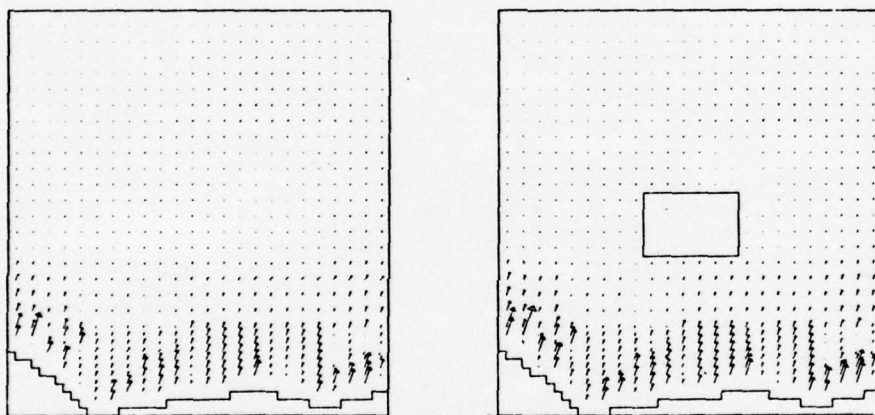
WITH JETPORT

NEARSHORE HORIZONTAL VELOCITIES
AT 20-, 30-, AND 40-FT DEPTHS

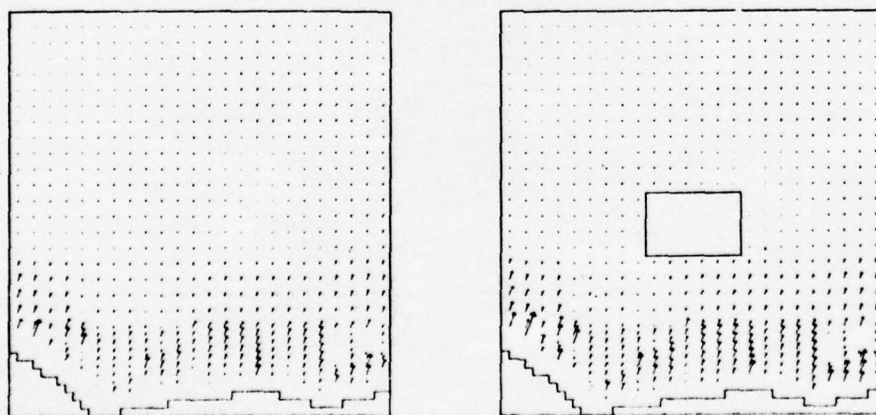
WIND SPEED AND DIRECTION, 17 MPH E



10-FT DEPTH
1 FT/SEC = (—) X500

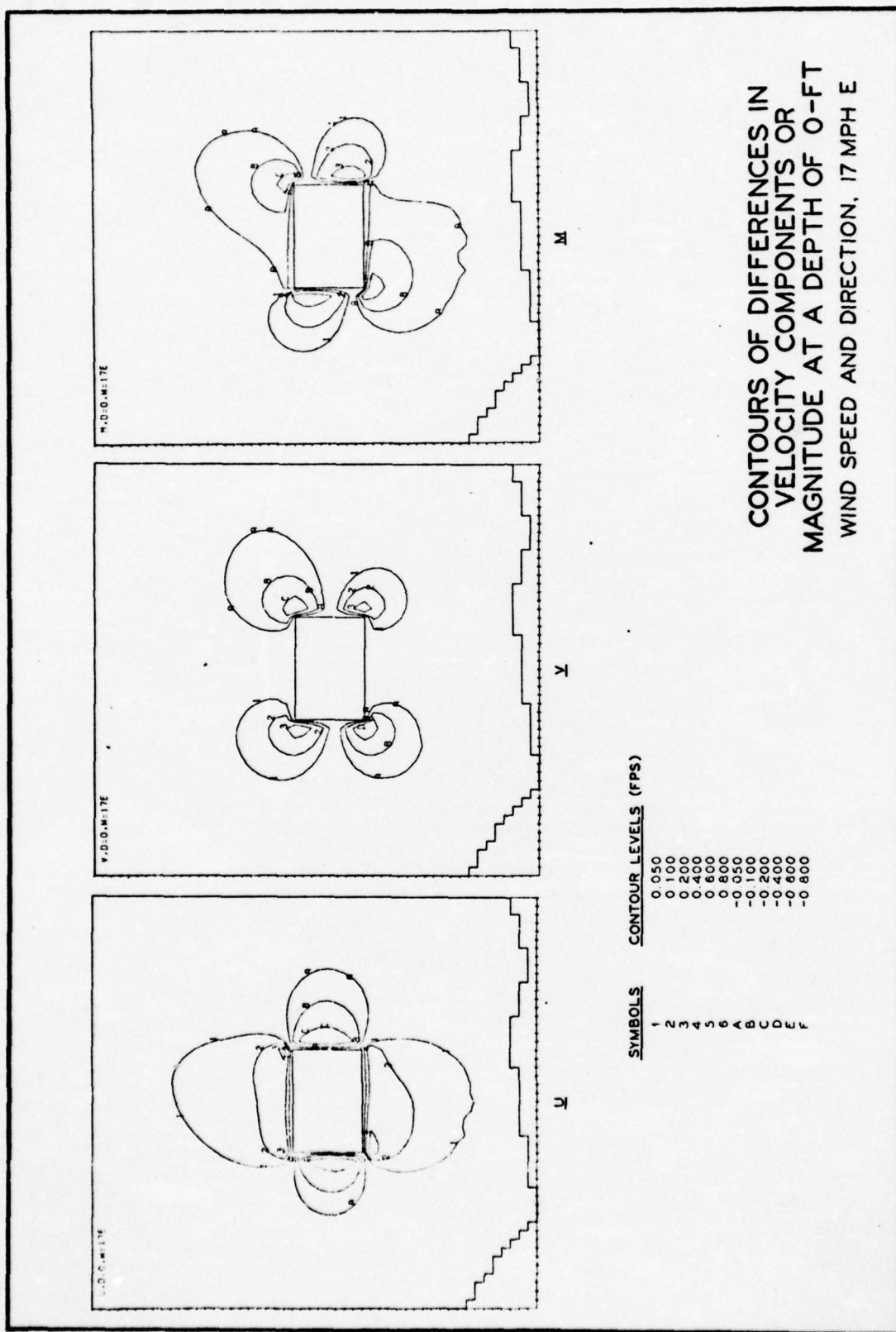


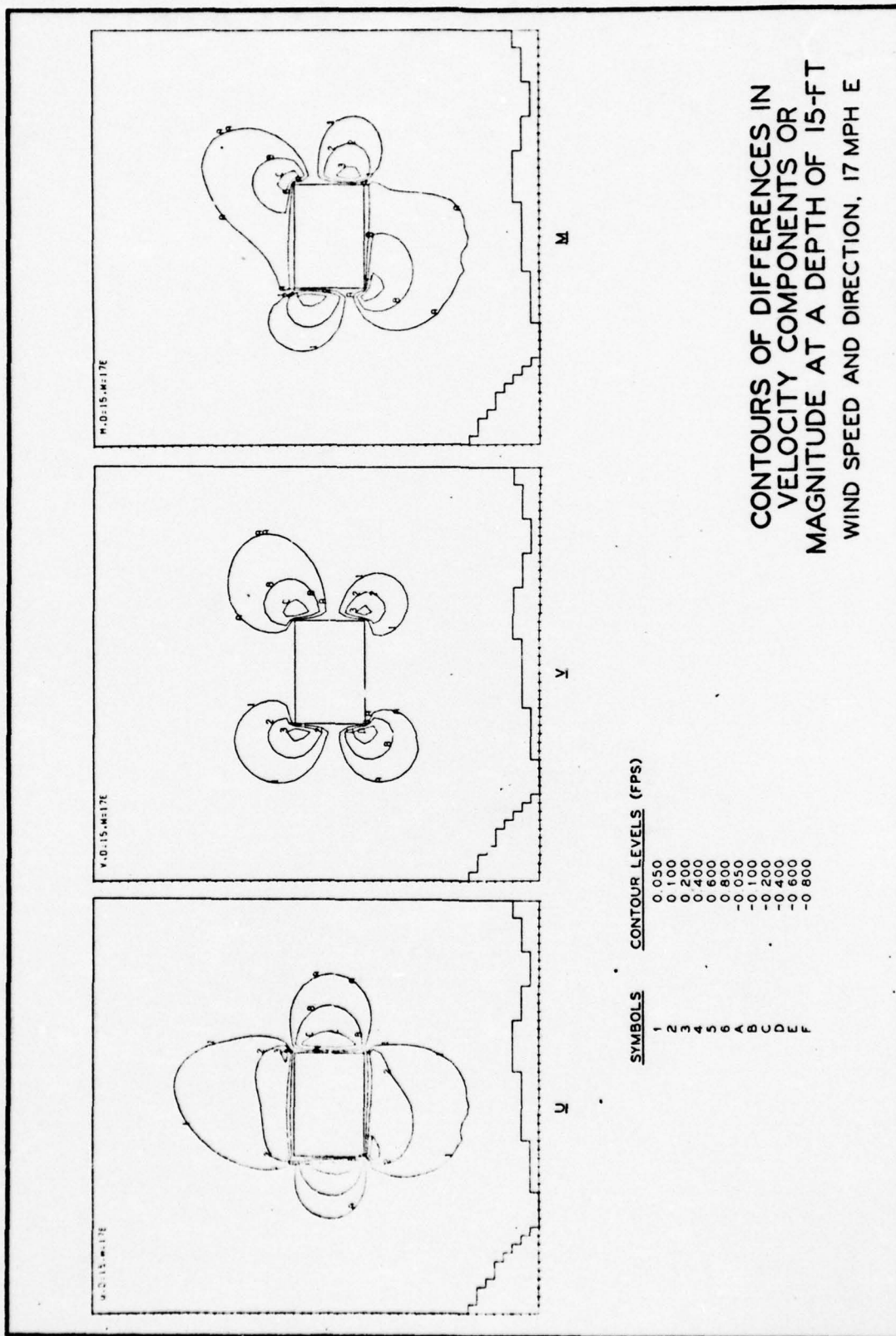
20-FT DEPTH
1 FT/SEC = (—) X500



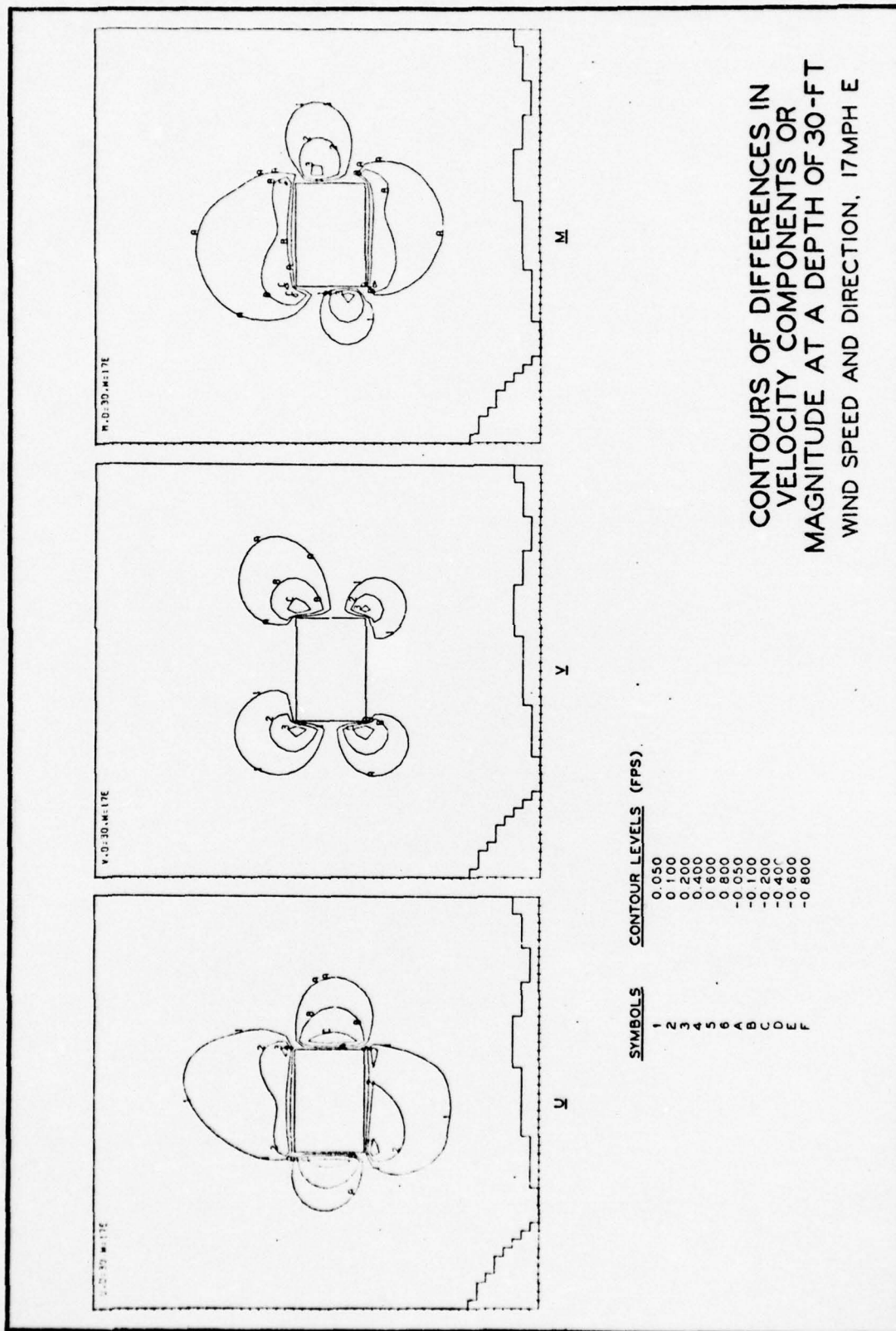
30-FT DEPTH
1 FT/SEC = (—) X500

NEARSHORE VERTICAL VELOCITIES
AT 10-, 20-, AND 30-FT DEPTHS
WIND SPEED AND DIRECTION, 17 MPH E





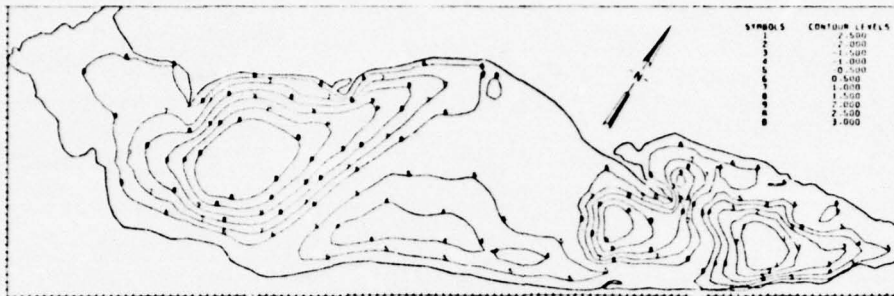
CONTOURS OF DIFFERENCES IN
VELOCITY COMPONENTS OR
MAGNITUDE AT A DEPTH OF 15-FT
WIND SPEED AND DIRECTION, 17 MPH E



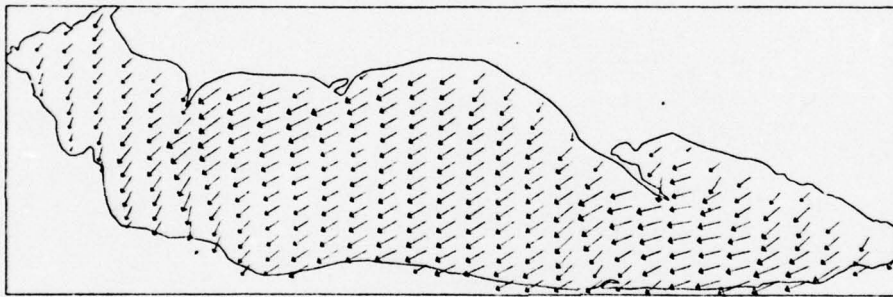
SYMBOLS CONTOUR LEVELS (FPS)

1	0.050
2	0.100
3	0.200
4	0.400
5	0.600
6	0.800
A	-0.050
B	-0.100
C	-0.200
D	-0.400
E	-0.600
F	-0.800

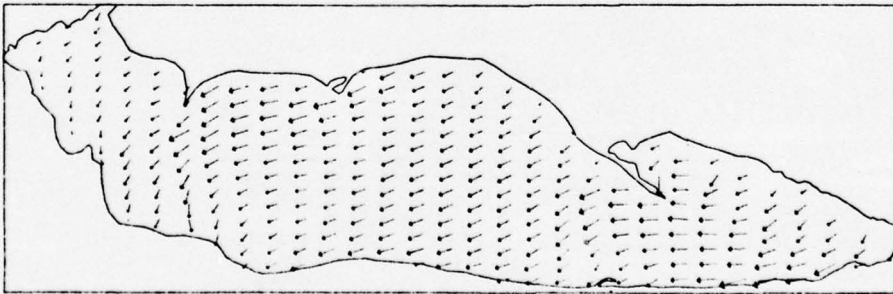
CONTOURS OF DIFFERENCES IN
VELOCITY COMPONENTS OR
MAGNITUDE AT A DEPTH OF 30-FT
WIND SPEED AND DIRECTION, 17MPH E



CONTOURS OF NON-DIMENSIONAL STREAM FUNCTION



0-FT DEPTH



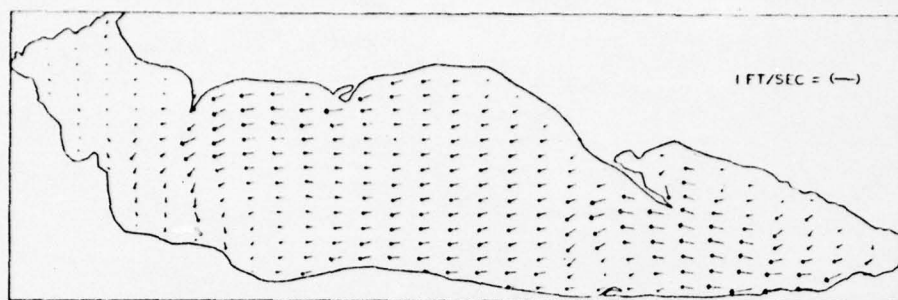
5-FT DEPTH

HORIZONTAL VELOCITIES

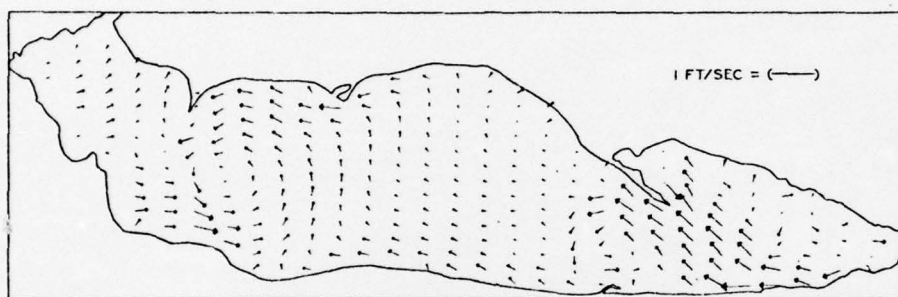
1 FT/SEC = (—)

STREAM FUNCTION CONTOURS AND HORIZONTAL VELOCITIES FOR LAKE ERIE

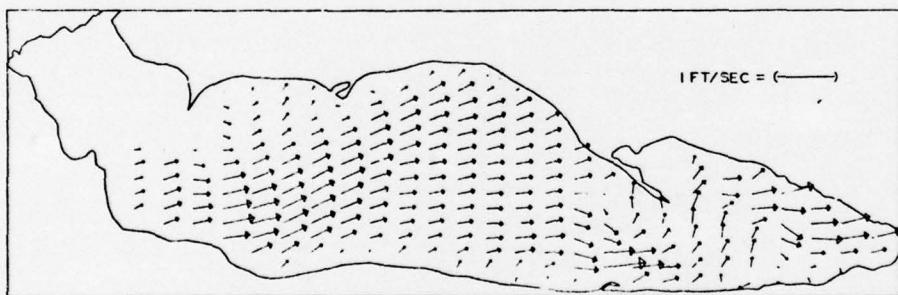
WIND SPEED AND
DIRECTION, 17 MPH N



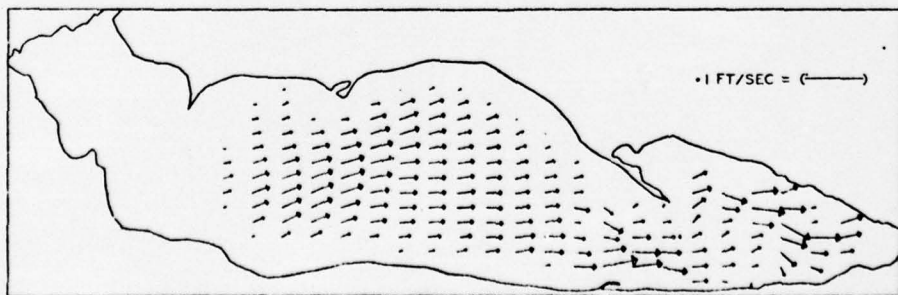
10-FT DEPTH



20-FT DEPTH

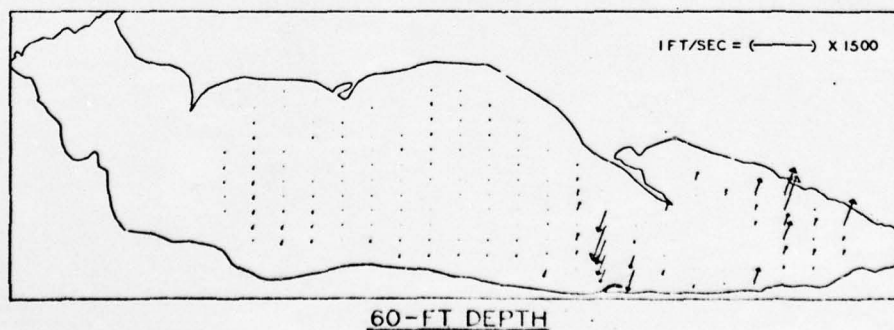
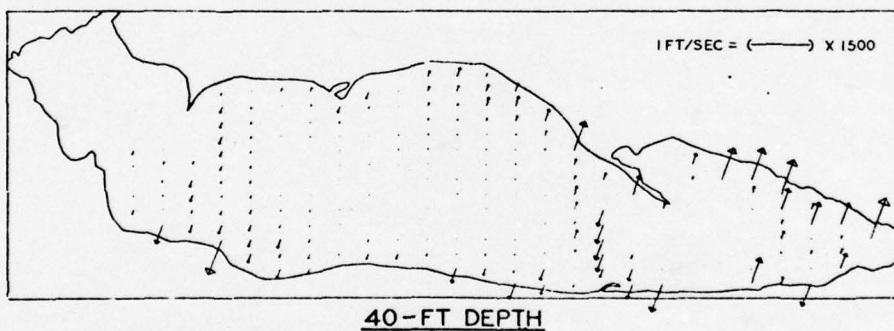
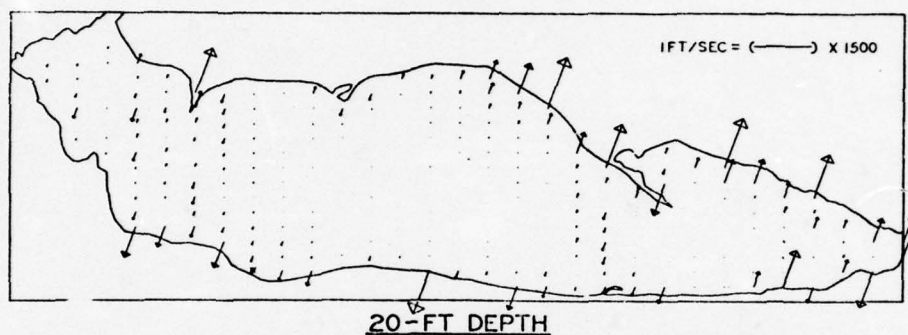
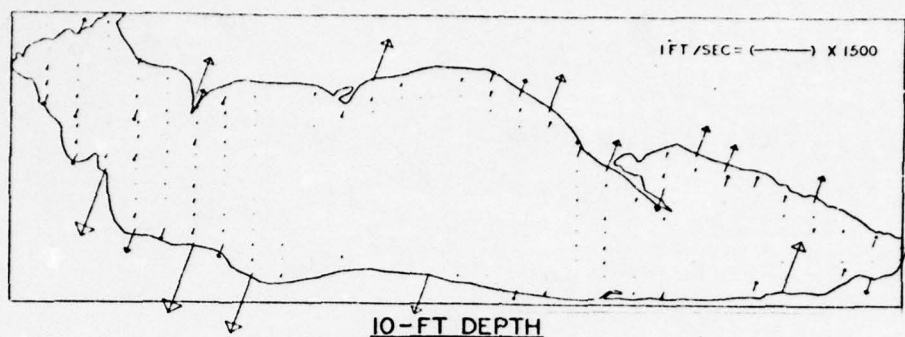


40-FT DEPTH

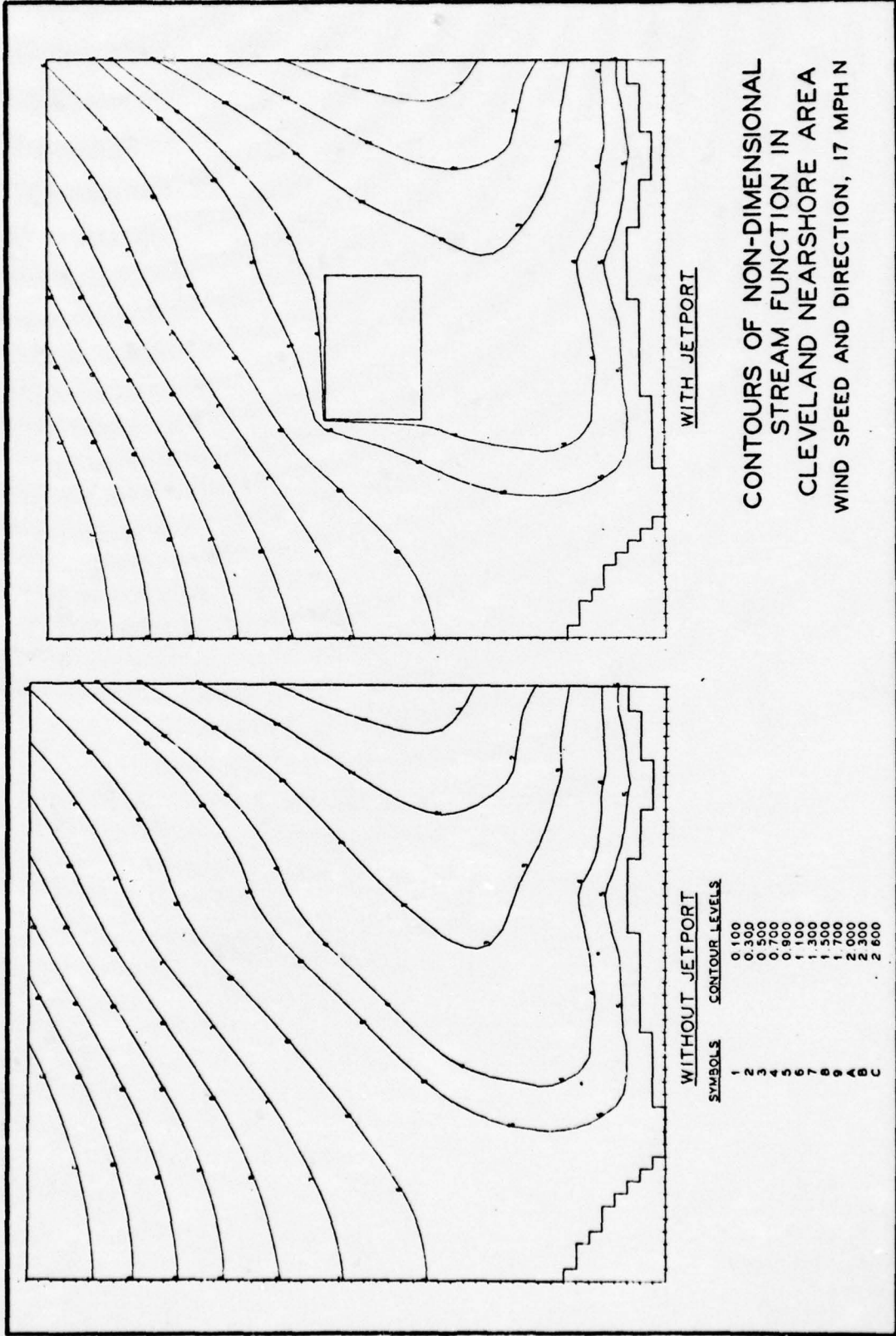


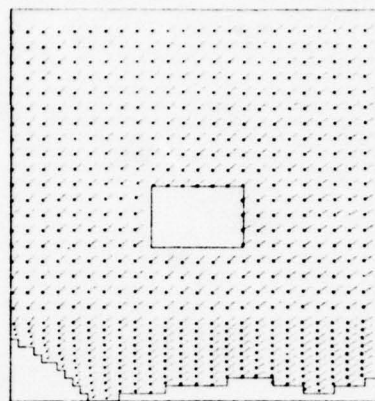
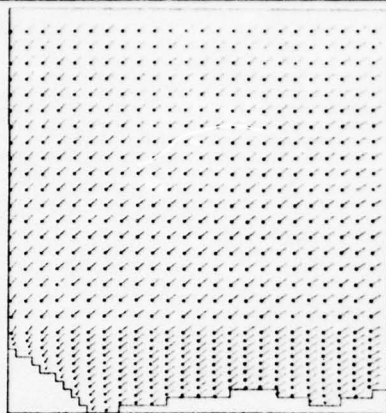
60-FT DEPTH

HORIZONTAL VELOCITIES AT
10-, 20-, 40-, AND 60-FT DEPTHS
WIND SPEED AND DIRECTION, 17 MPH N

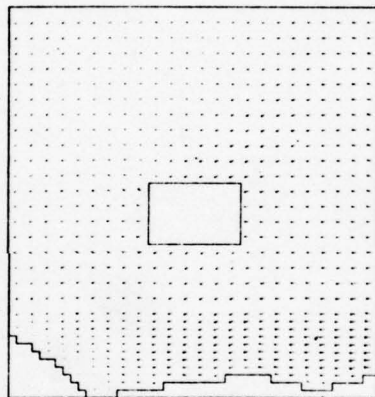
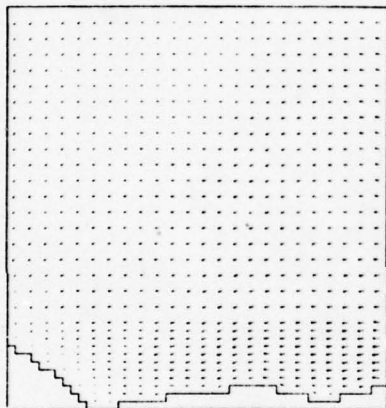


VERTICAL VELOCITIES AT
10-, 20-, 40-, AND 60-FT DEPTHS
WIND SPEED AND DIRECTION, 17 MPH N

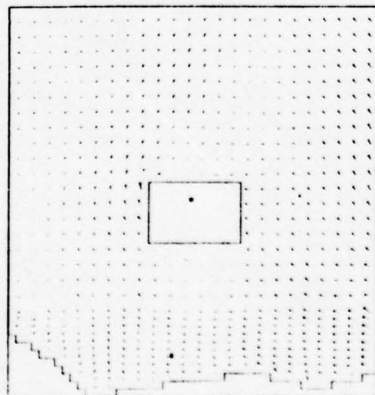
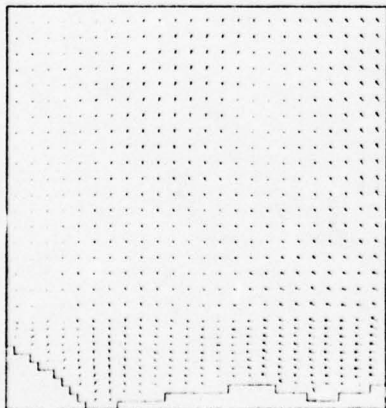




0-FT DEPTH
1 FT/SEC = (—)



10-FT DEPTH
1 FT/SEC = (—)

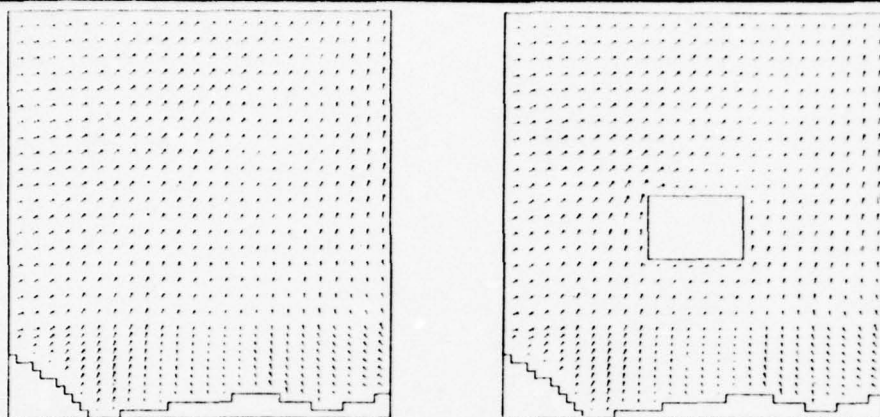


WITHOUT JETPORT

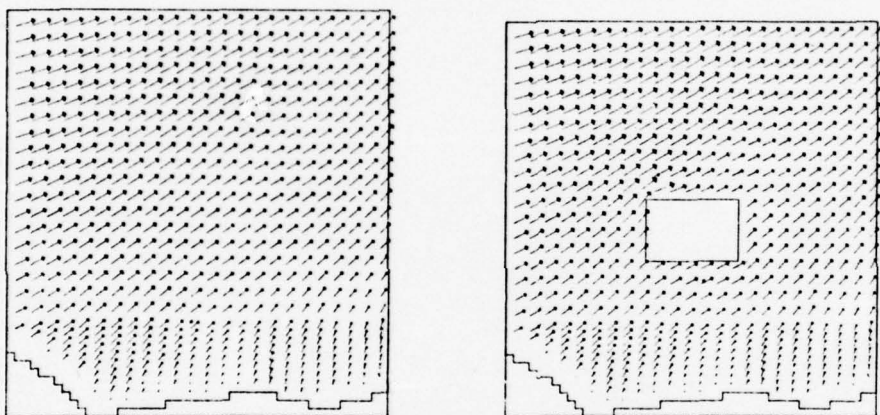
15-FT DEPTH
1 FT/SEC = (—)

WITH JETPORT

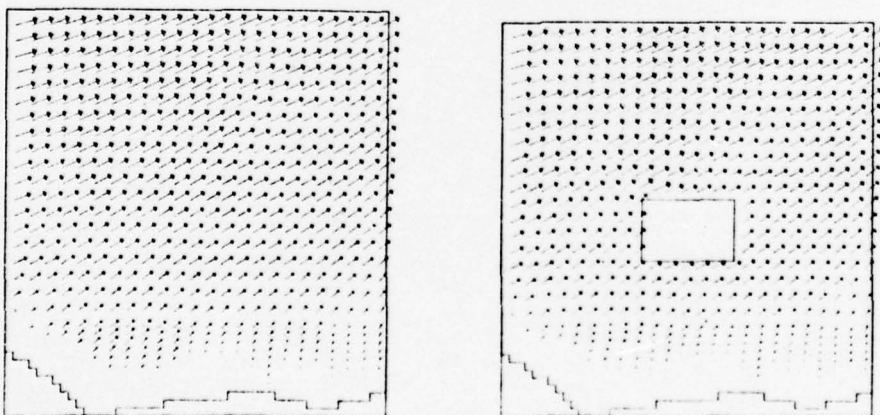
NEARSHORE HORIZONTAL VELOCITIES
AT 0-, 10-, AND 15-FT DEPTHS
WIND SPEED AND DIRECTION, 17 MPH N



20-FT DEPTH
1 FT/SEC = (→)



30-FT DEPTH
1 FT/SEC = (→)

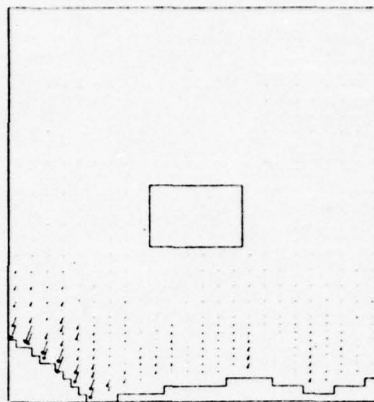
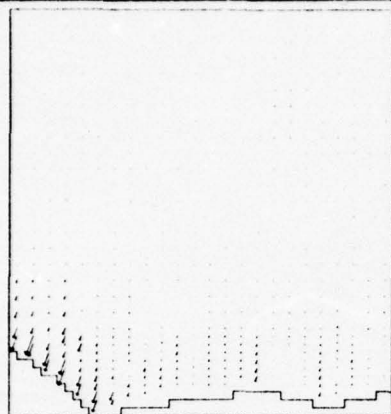


WITHOUT JETPORT

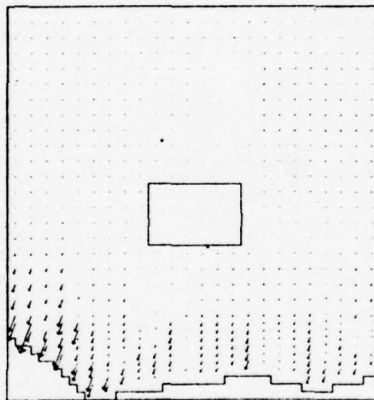
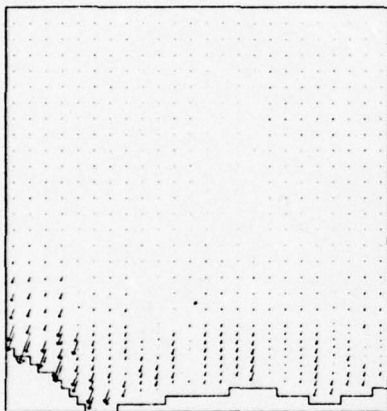
40-FT DEPTH
1 FT/SEC = (→)

WITH JETPORT

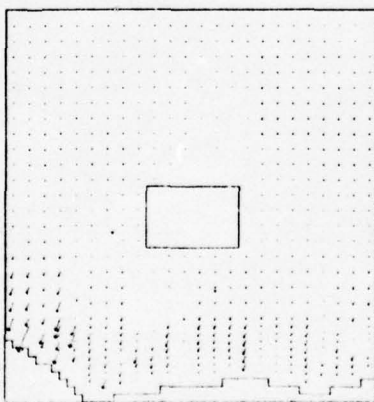
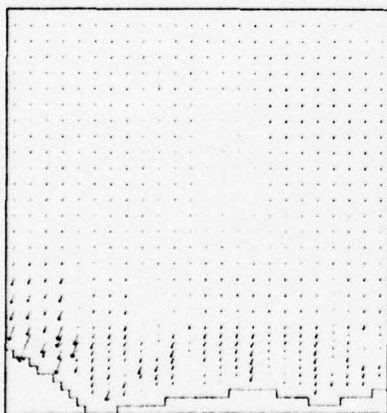
NEARSHORE HORIZONTAL VELOCITIES
AT 20-, 30-, AND 40-FT DEPTHS
WIND SPEED AND DIRECTION, 17 MPH N



10-FT DEPTH
1 FT/SEC = (—) X 500



20-FT DEPTH
1 FT/SEC = (—) X 500

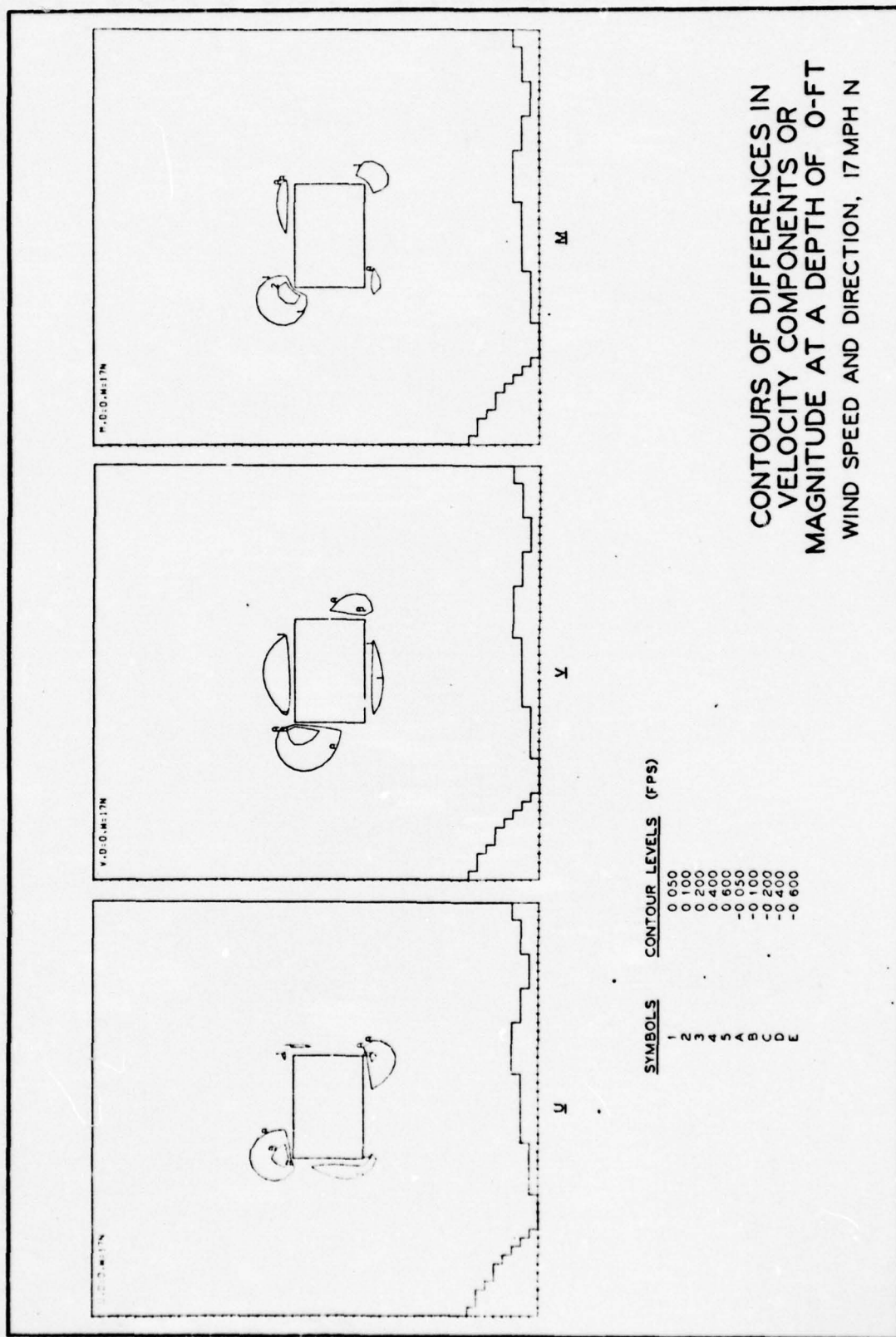


WITHOUT JETPORT

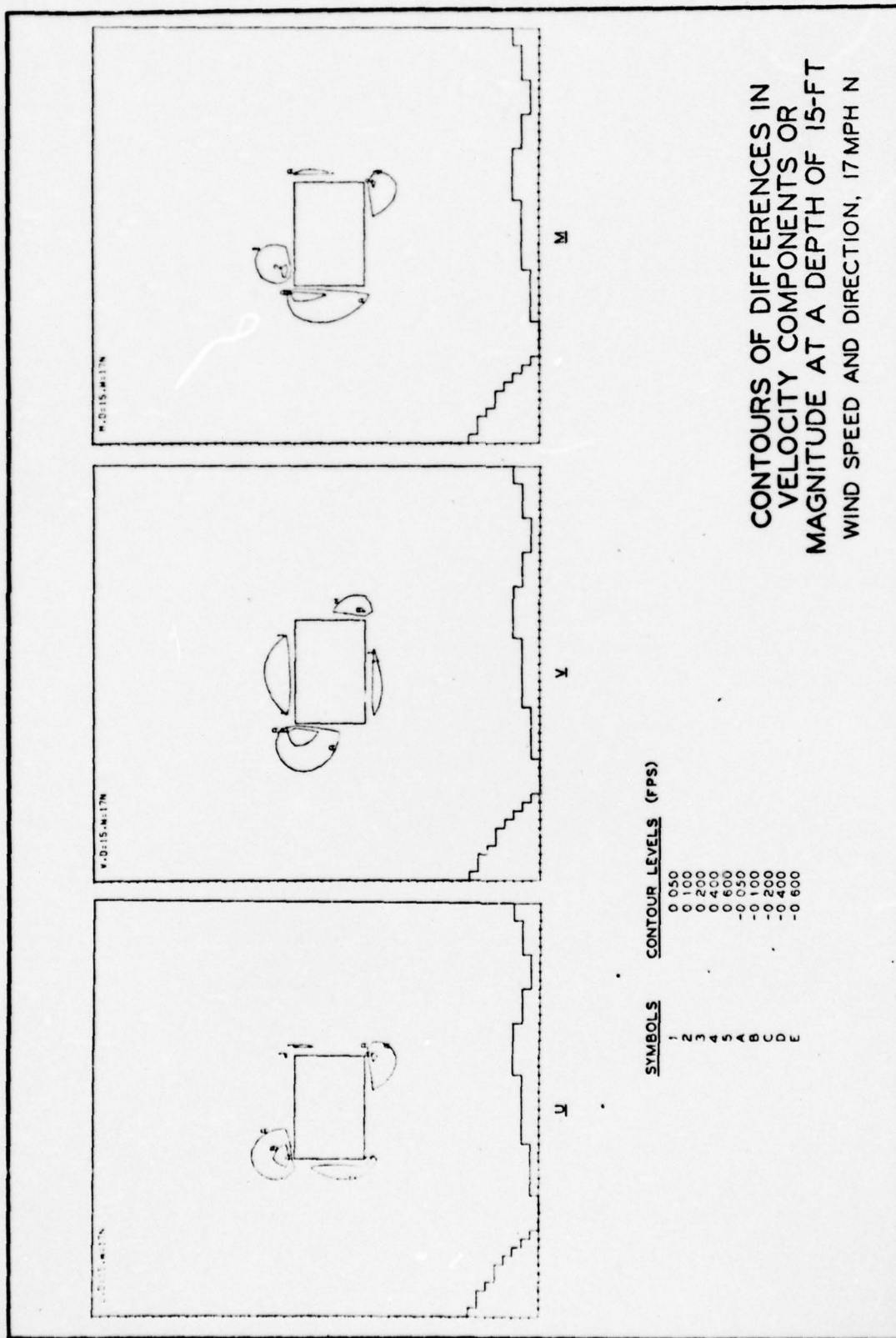
30-FT DEPTH
1 FT/SEC = (—) X 500

WITH JETPORT

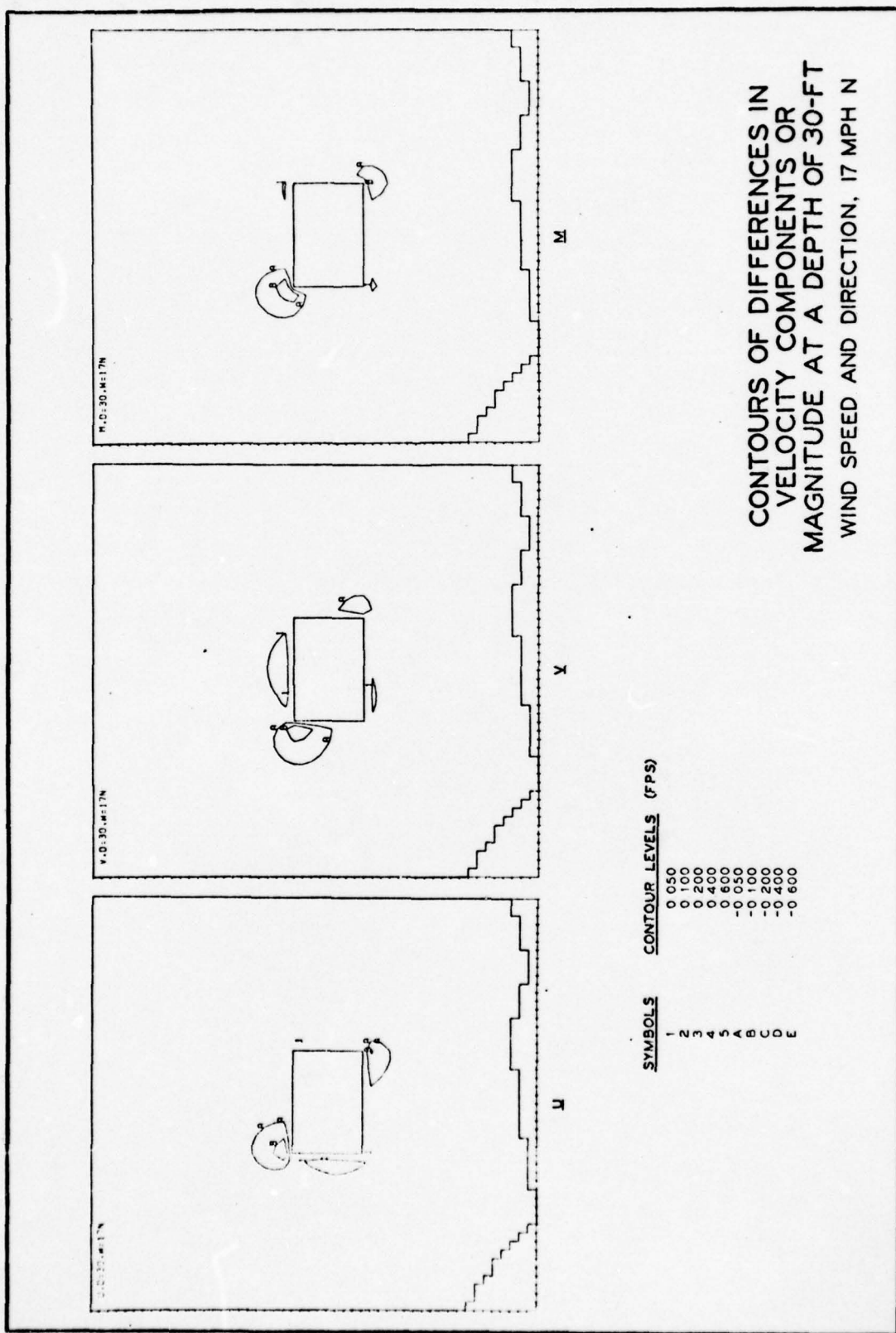
NEARSHORE VERTICAL VELOCITIES
AT 10-, 20-, AND 30-FT DEPTHS
WIND SPEED AND DIRECTION, 17 MPH N



CONTOURS OF DIFFERENCES IN
VELOCITY COMPONENTS OR
MAGNITUDE AT A DEPTH OF 0-FT
WIND SPEED AND DIRECTION, 17 MPH N



CONTOURS OF DIFFERENCES IN
VELOCITY COMPONENTS OR
MAGNITUDE AT A DEPTH OF 15-FT
WIND SPEED AND DIRECTION, 17 MPH N

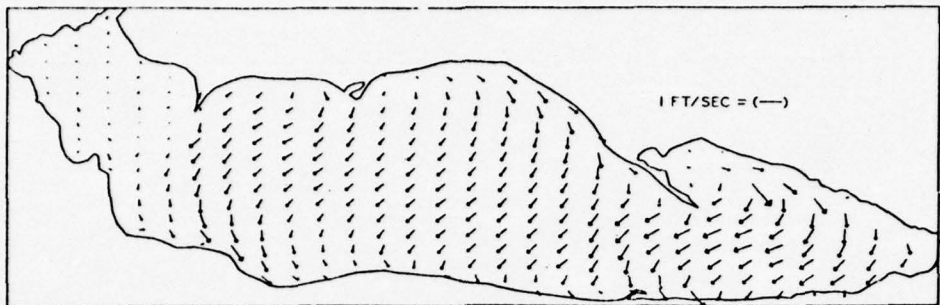


SYMBOLS CONTOUR LEVELS (FPS)

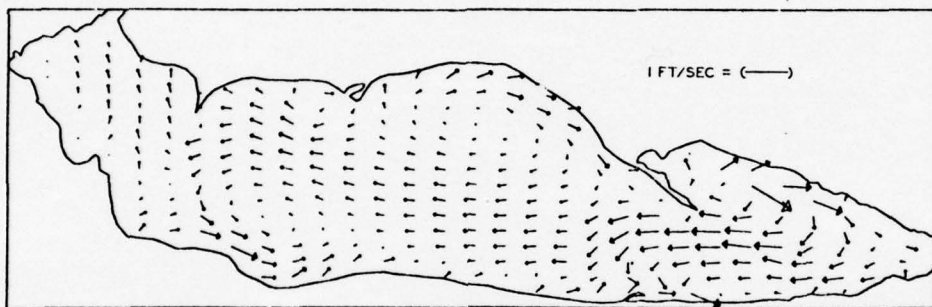
1	0.050
2	0.100
3	0.200
4	0.400
5	0.600
A	-0.050
B	-0.100
C	-0.200
D	-0.400
E	-0.600

CONTOURS OF DIFFERENCES IN
VELOCITY COMPONENTS OR
MAGNITUDE AT A DEPTH OF 30-FT
WIND SPEED AND DIRECTION, 17 MPH N

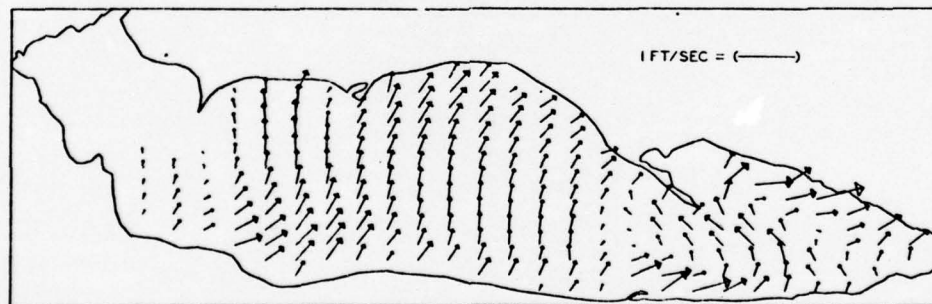




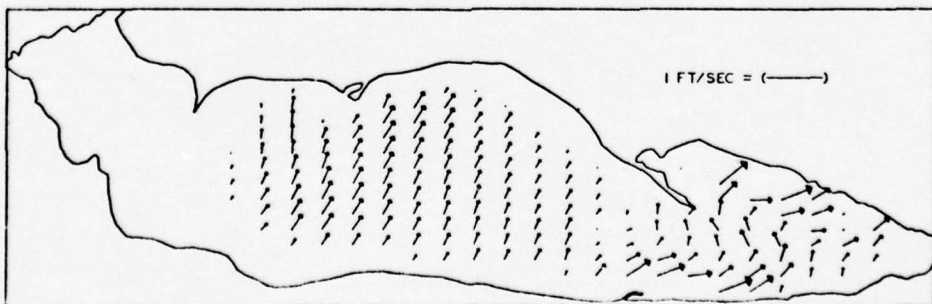
10-FT DEPTH



20-FT DEPTH

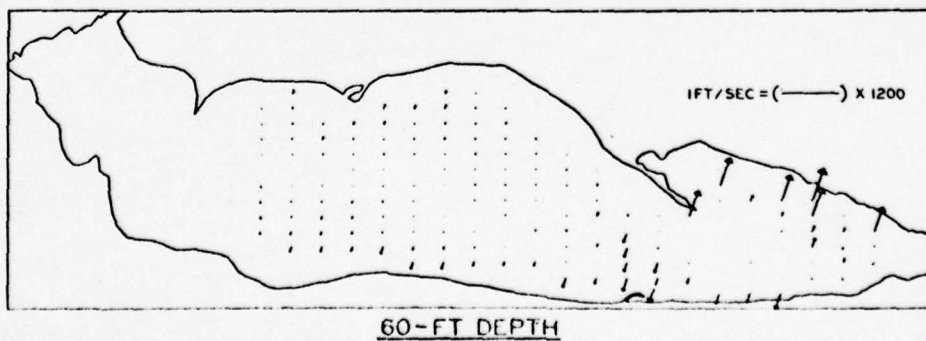
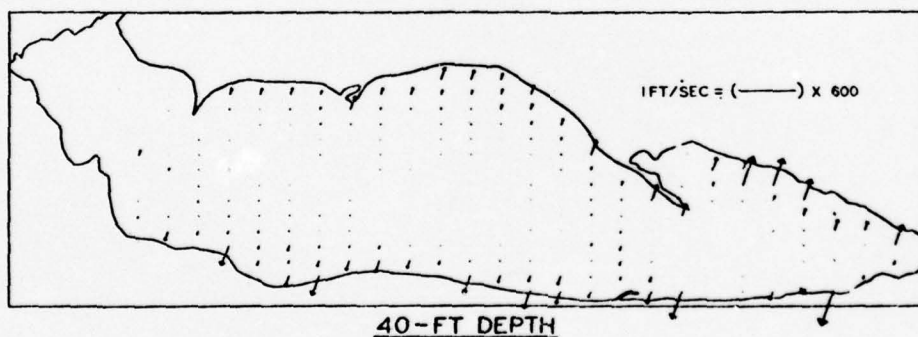
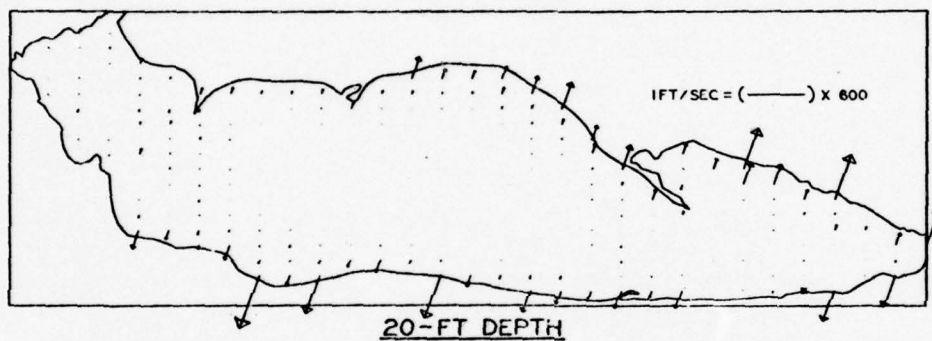
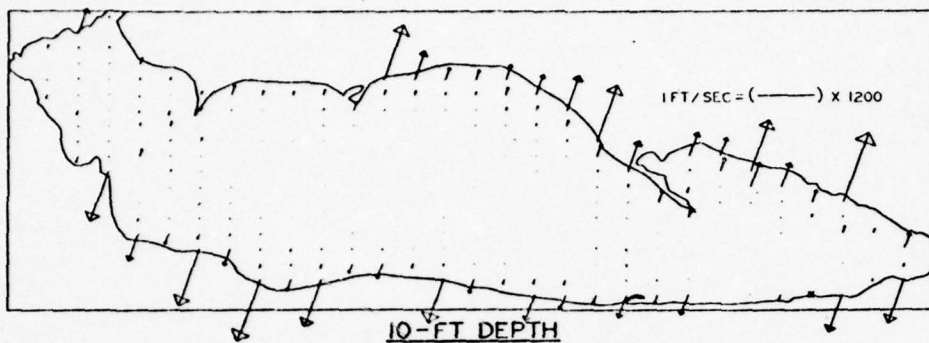


40-FT DEPTH

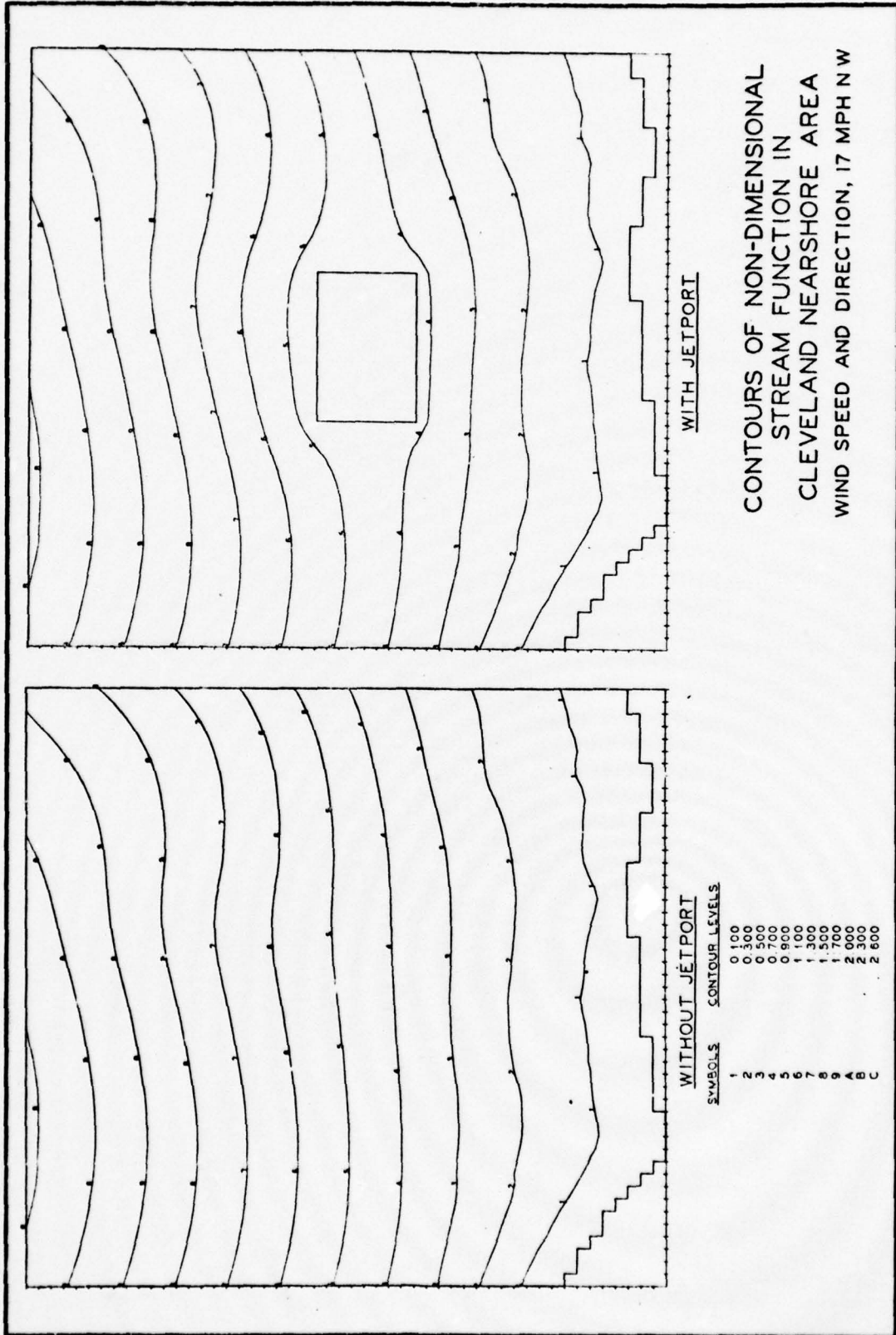


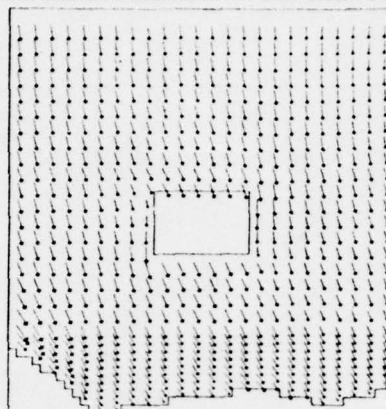
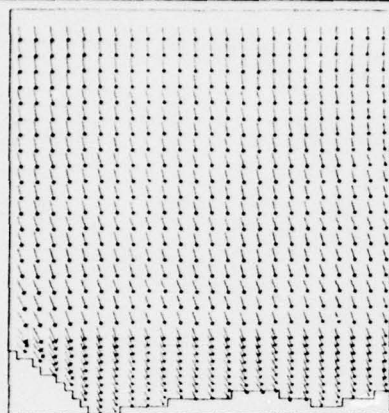
60-FT DEPTH

HORIZONTAL VELOCITIES AT
10-, 20-, 40-, AND 60-FT DEPTHS
WIND SPEED AND DIRECTION, 17 MPH NW

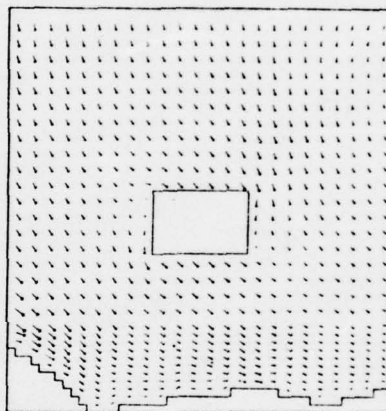
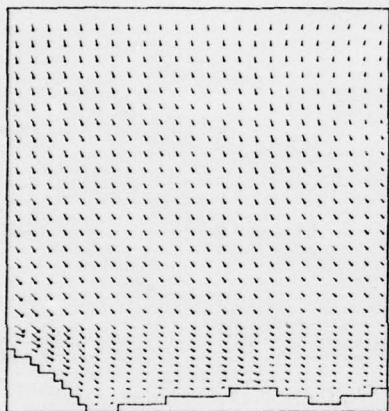


VERTICAL VELOCITIES AT
10-, 20-, 40-, AND 60-FT DEPTHS
WIND SPEED AND DIRECTION, 17 MPH N W

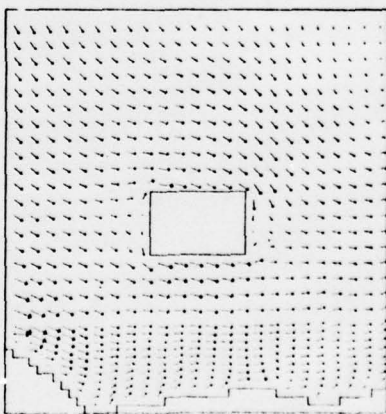
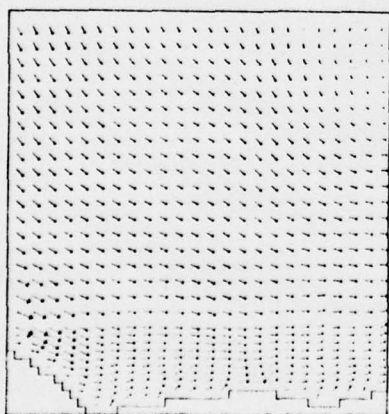




0-FT DEPTH
1 FT/SEC = (—)



10-FT DEPTH
1 FT/SEC = (—)

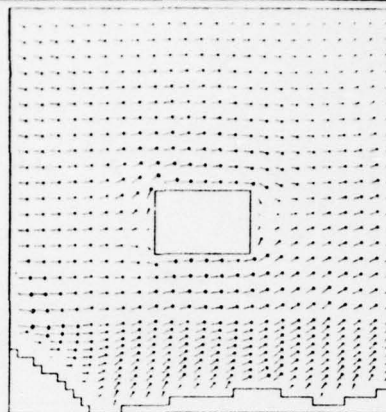
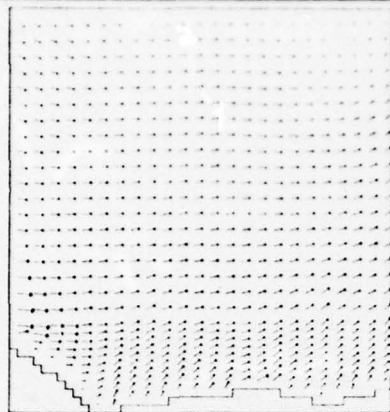


WITHOUT JETPORT

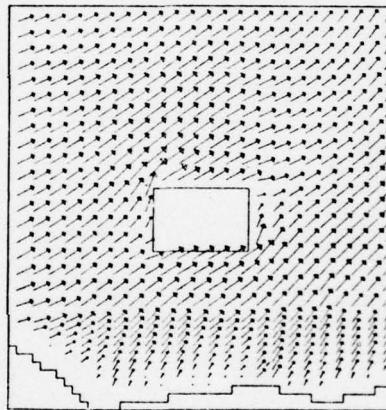
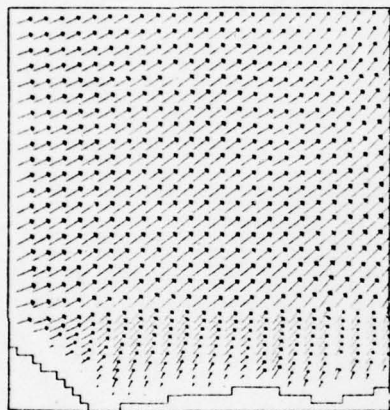
15-FT DEPTH
1 FT/SEC = (—)

WITH JETPORT

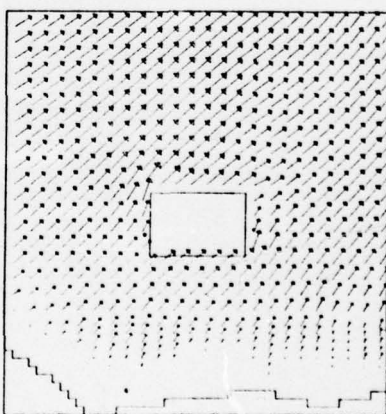
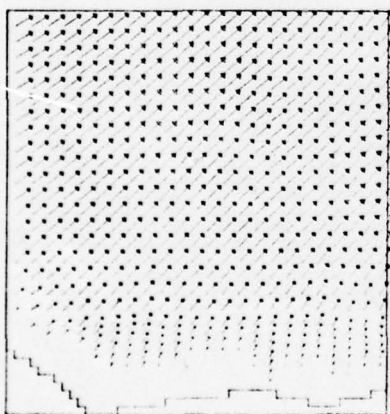
NEARSHORE HORIZONTAL VELOCITIES
AT 0-, 10-, AND 15-FT DEPTHS
WIND SPEED AND DIRECTION, 17 MPH NW



20-FT DEPTH
1 FT/SEC = (→)



30-FT DEPTH
1 FT/SEC = (→)

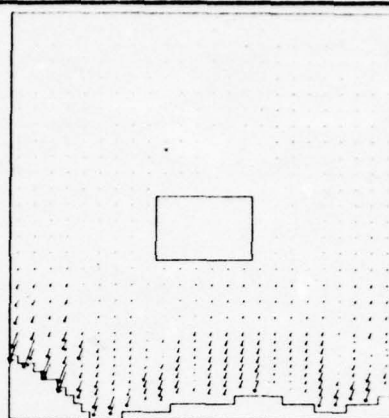
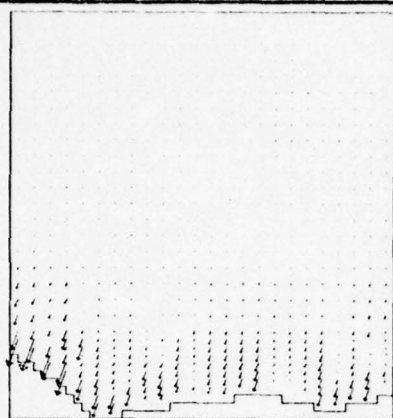


WITHOUT JETPORT

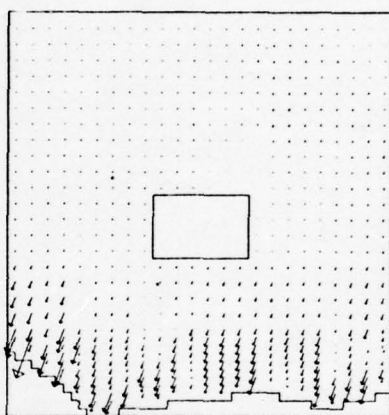
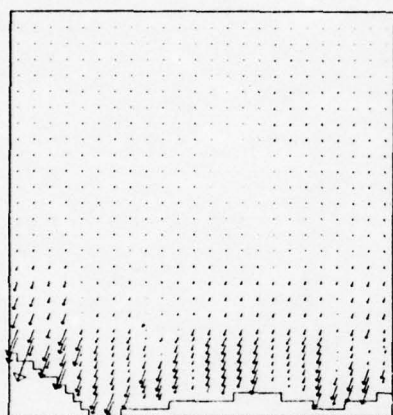
40-FT DEPTH
1 FT/SEC = (→)

WITH JETPORT

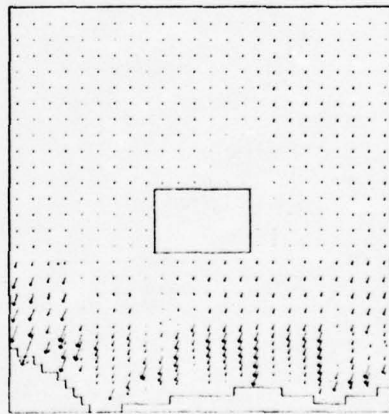
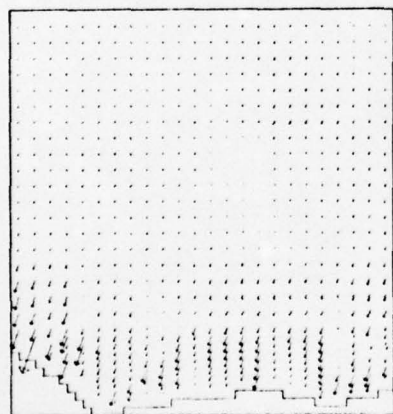
NEARSHORE HORIZONTAL VELOCITIES
AT 20-, 30-, AND 40-FT DEPTHS
WIND SPEED AND DIRECTION, 17 MPH NW



10-FT DEPTH
1 FT/SEC = (→) X500



20-FT DEPTH
1 FT/SEC = (→) X500

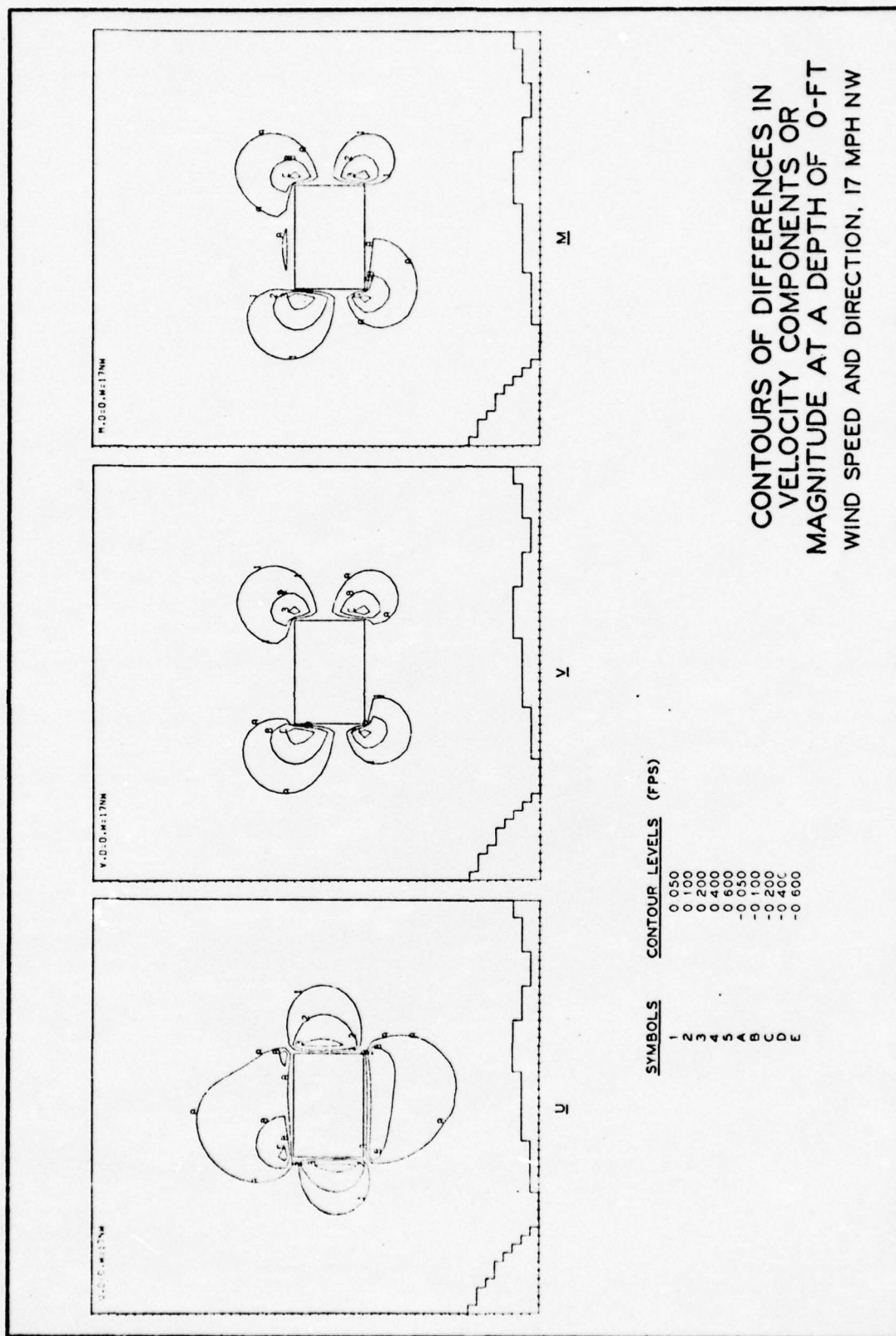


WITHOUT JETPORT

30-FT DEPTH
1 FT/SEC = (→) X500

WITH JETPORT

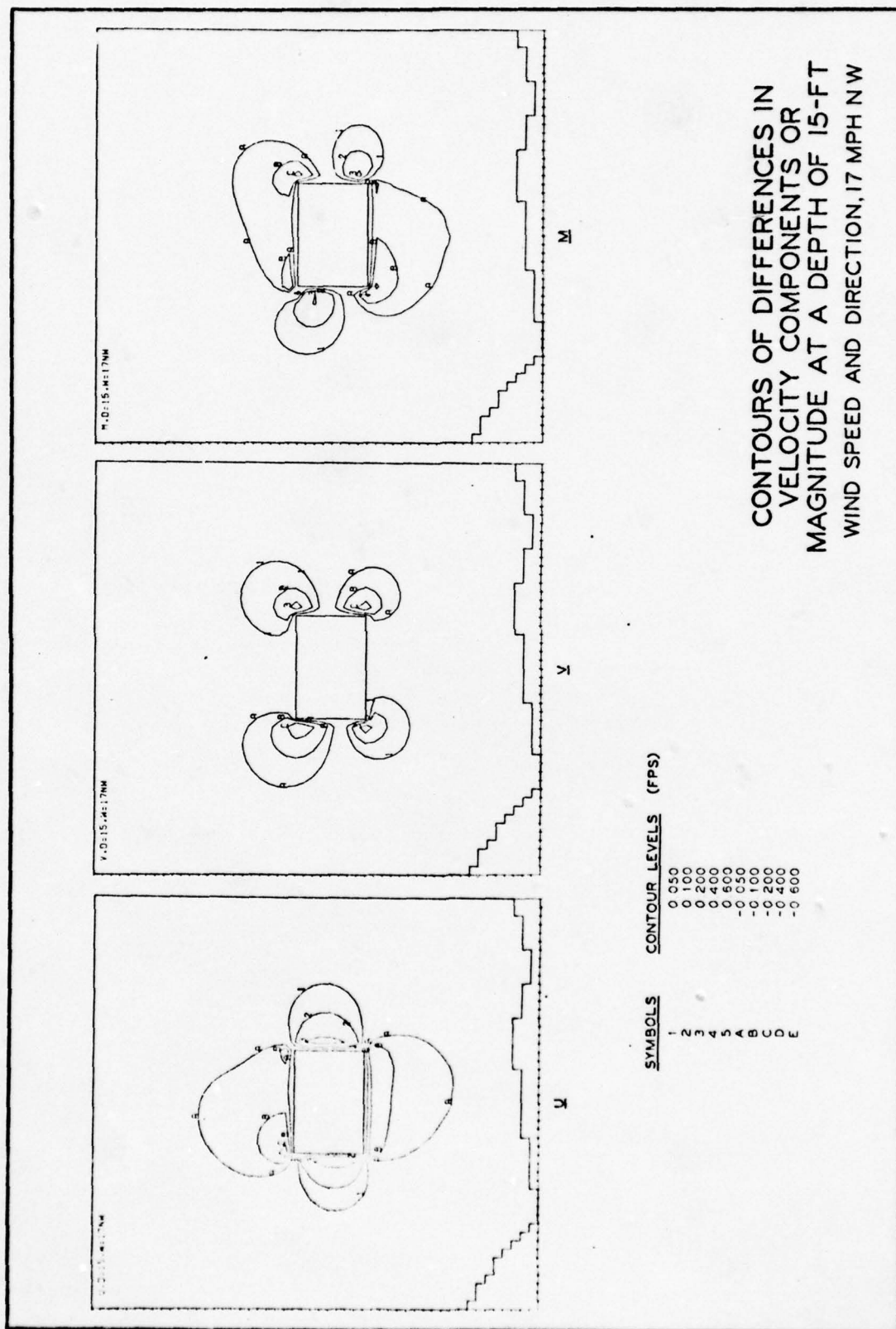
NEARSHORE VERTICAL VELOCITIES
AT 10-, 20-, AND 30-FT DEPTHS
WIND SPEED AND DIRECTION, 17 MPH NW



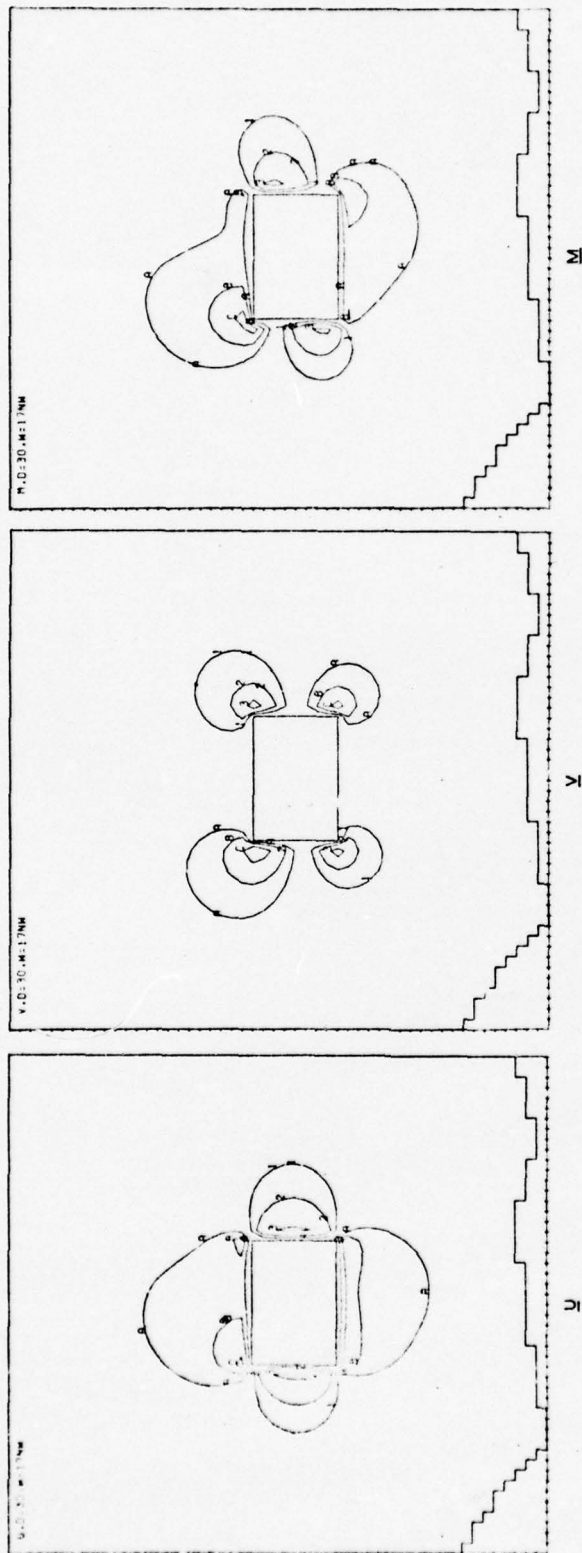
CONTOURS OF DIFFERENCES IN
VELOCITY COMPONENTS OR
MAGNITUDE AT A DEPTH OF 0-FT
WIND SPEED AND DIRECTION, 17 MPH NW

SYMBOLS CONTOUR LEVELS (FPS)

1	0.050
2	0.100
3	0.200
4	0.400
5	0.600
A	-0.050
B	-0.100
C	-0.200
D	-0.400
E	-0.600



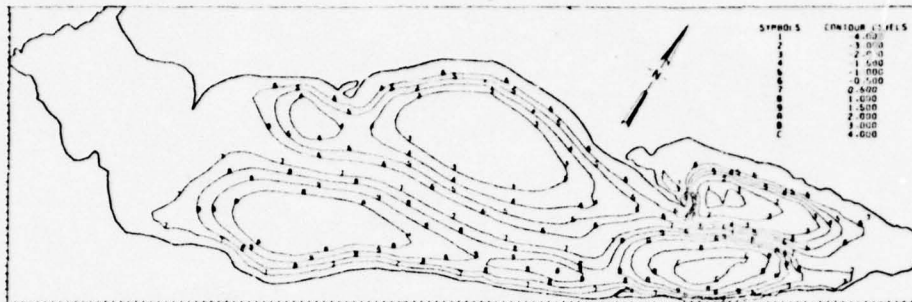
CONTOURS OF DIFFERENCES IN
VELOCITY COMPONENTS OR
MAGNITUDE AT A DEPTH OF 15-FT
WIND SPEED AND DIRECTION, 17 MPH NW



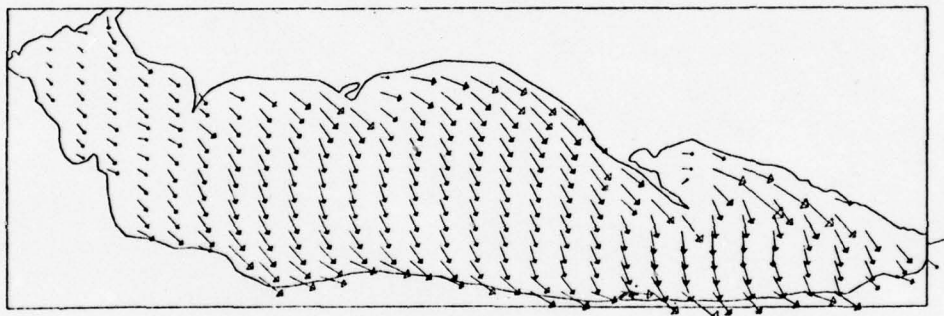
SYMBOLS CONTOUR LEVELS (FPS)

1	0.050
2	0.100
3	0.200
4	0.400
5	0.600
6	-0.050
7	-0.100
8	-0.200
9	-0.400
0	-0.600

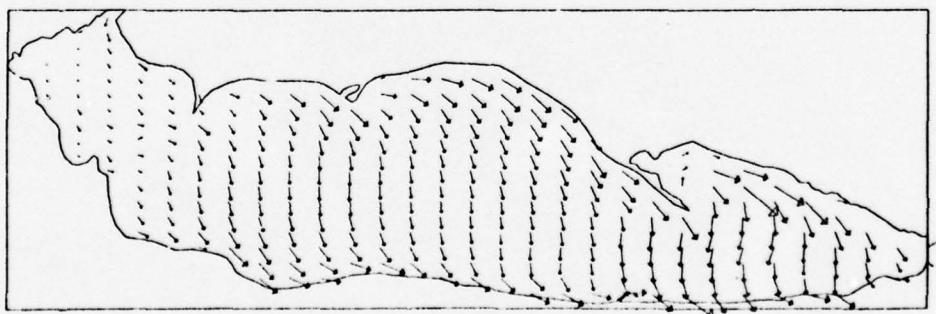
CONTOURS OF DIFFERENCES IN
VELOCITY COMPONENTS OR
MAGNITUDE AT A DEPTH OF 30-FT
WIND SPEED AND DIRECTION, 17 MPH NW



CONTOURS OF NON-DIMENSIONAL STREAM FUNCTION



0-FT DEPTH



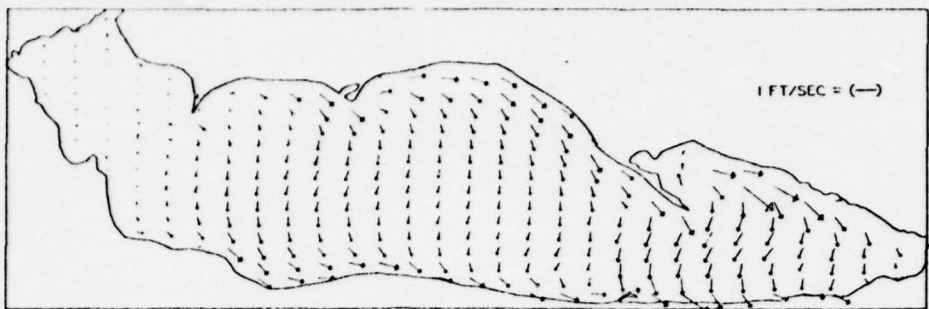
5-FT DEPTH

HORIZONTAL VELOCITIES

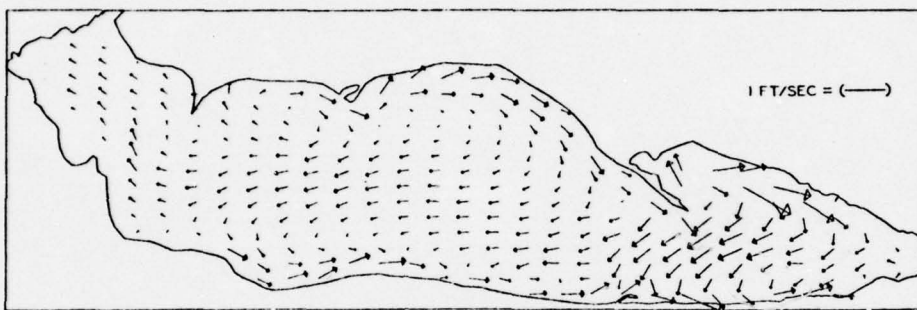
1 FT/SEC = (—)

STREAM FUNCTION
CONTOURS AND HORIZONTAL
VELOCITIES FOR LAKE ERIE

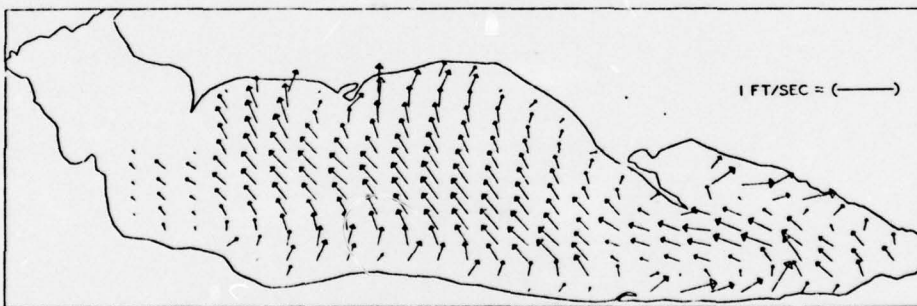
WIND SPEED AND
DIRECTION, 17 MPH W



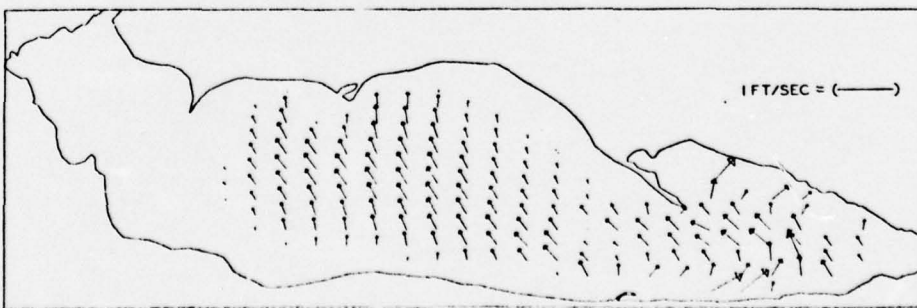
10-FT DEPTH



20-FT DEPTH

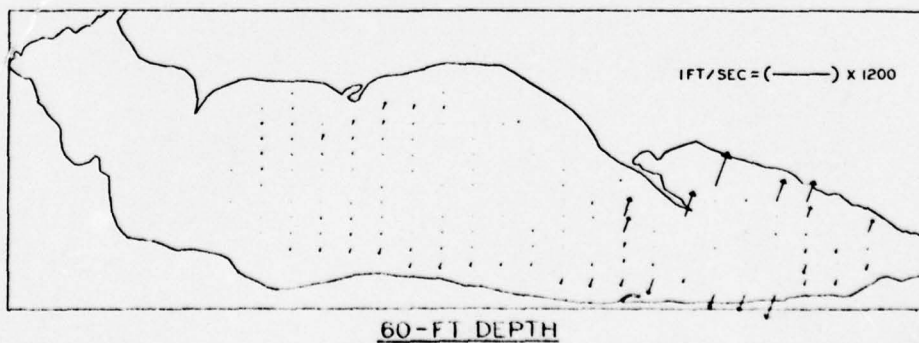
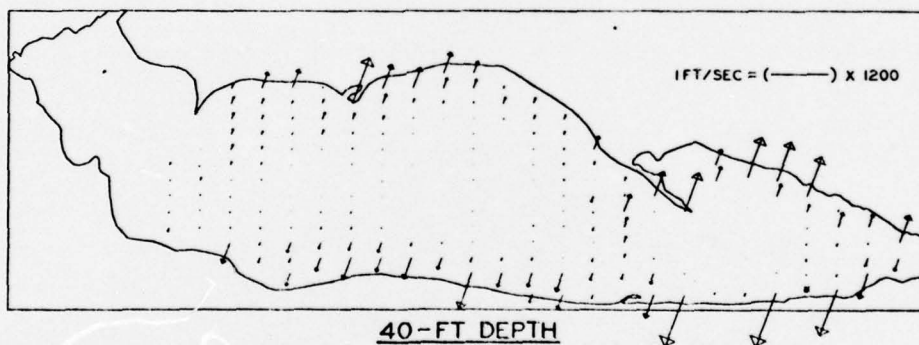
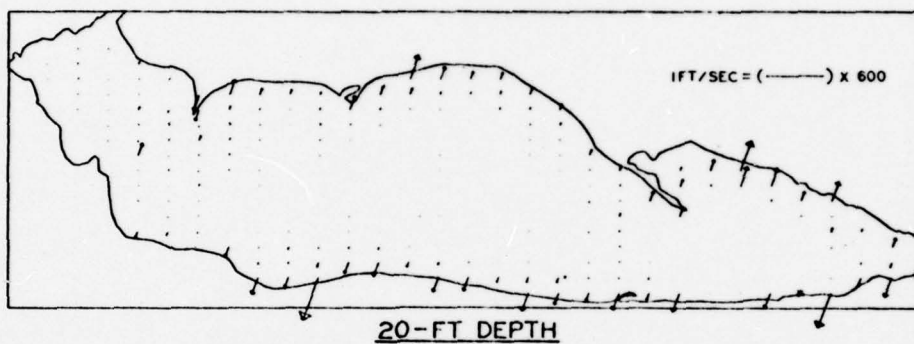
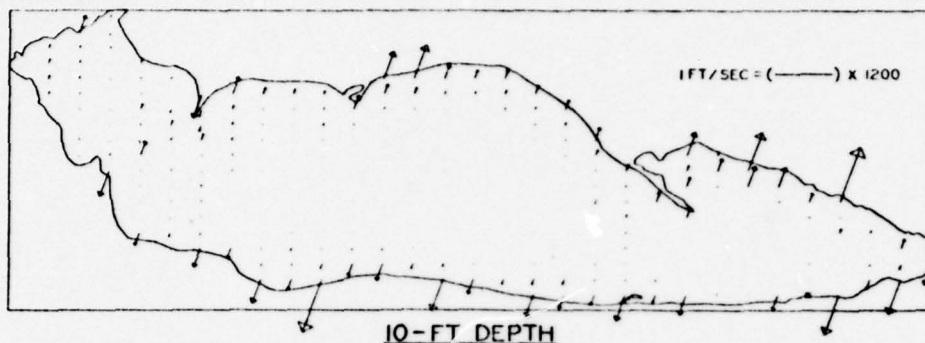


40-FT DEPTH

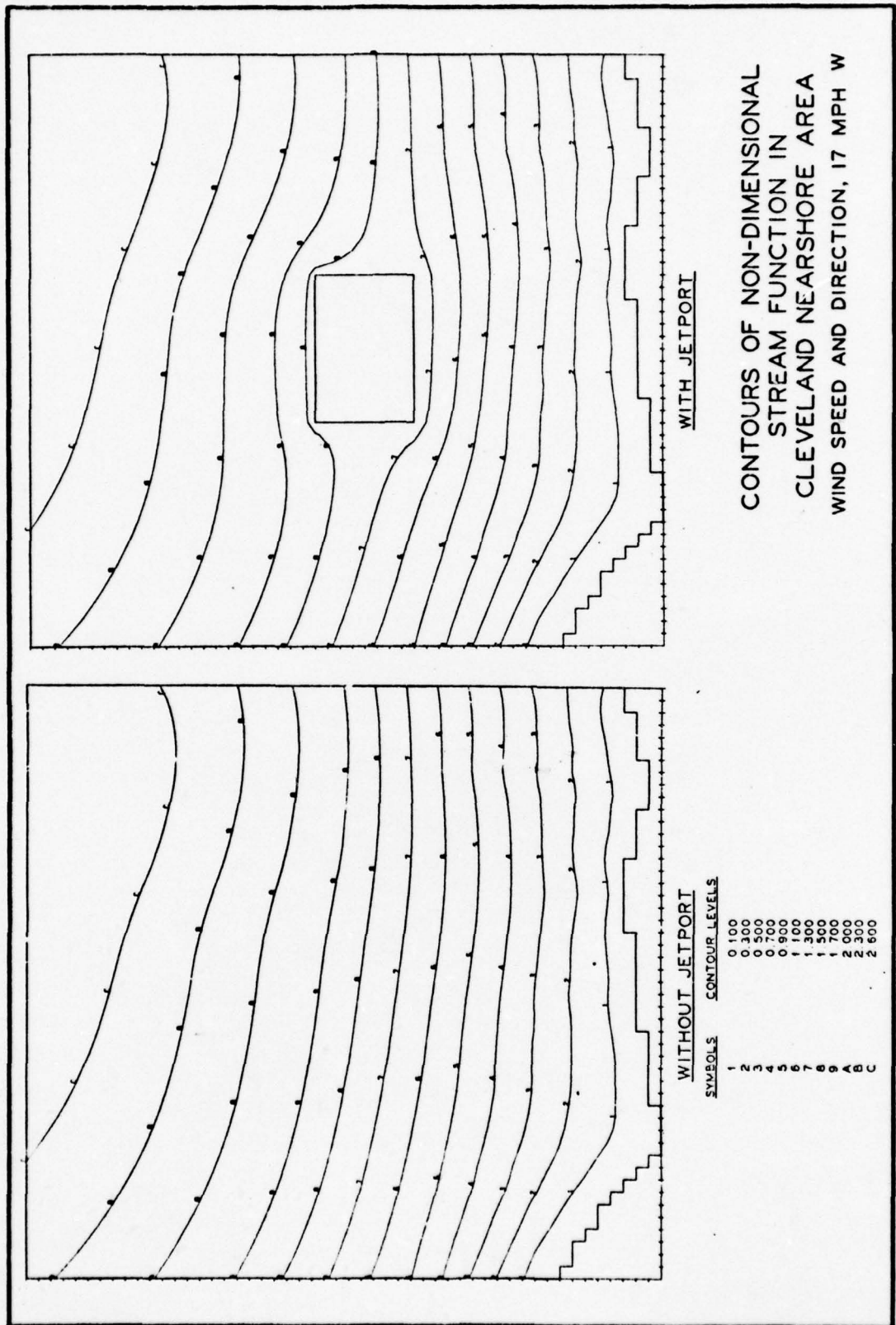


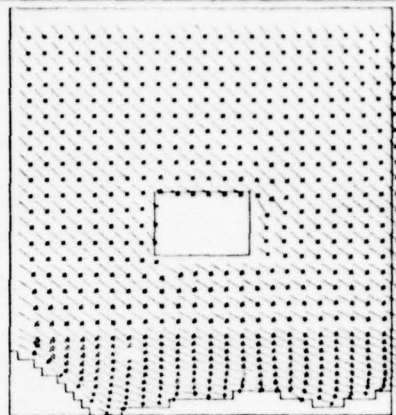
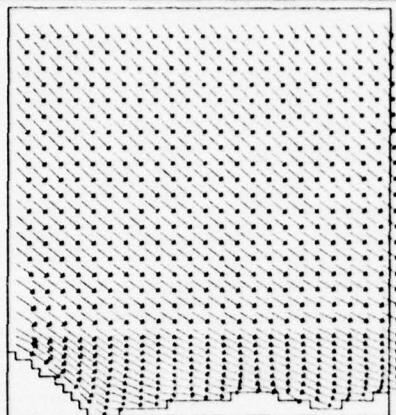
60-FT DEPTH

HORIZONTAL VELOCITIES AT
10-, 20-, 40-, AND 60-FT DEPTHS
WIND SPEED AND DIRECTION, 17 MPH W

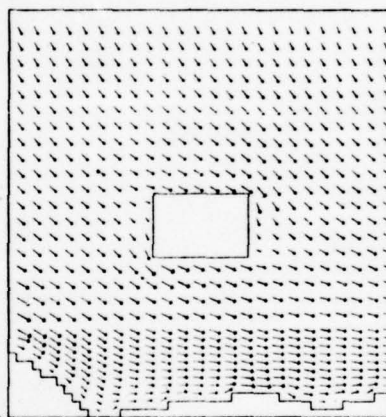
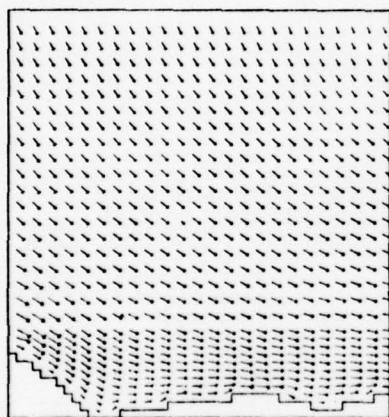


VERTICAL VELOCITIES AT
10-, 20-, 40-, AND 60-FT DEPTHS
WIND SPEED AND DIRECTION, 17MPH W

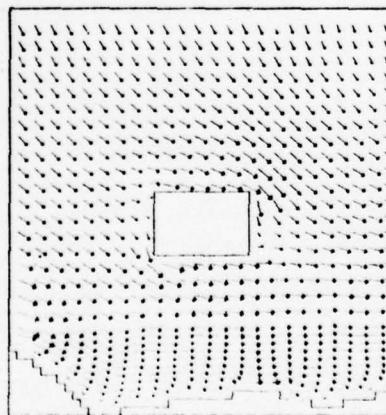
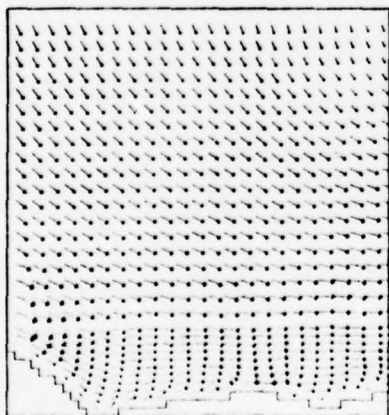




0-FT DEPTH
1 FT/SEC = (—)



10-FT DEPTH
1 FT/SEC = (—)

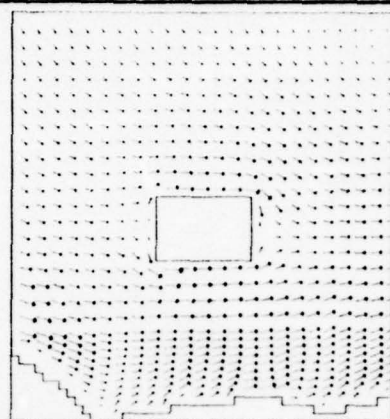
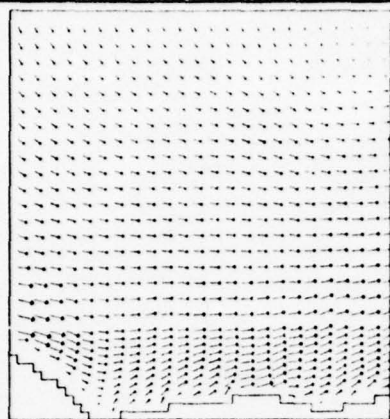


WITHOUT JETPORT

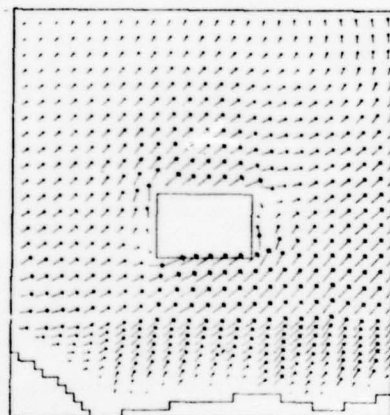
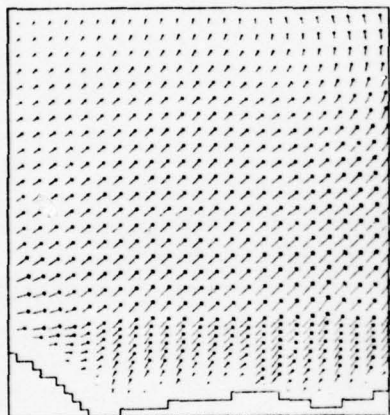
15-FT DEPTH
1 FT/SEC = (—)

WITH JETPORT

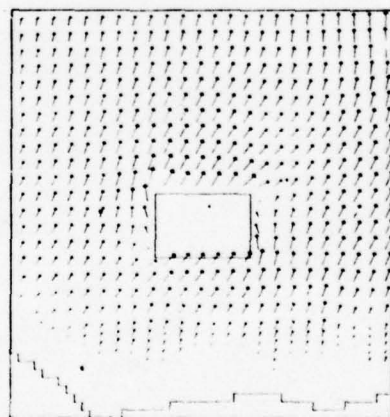
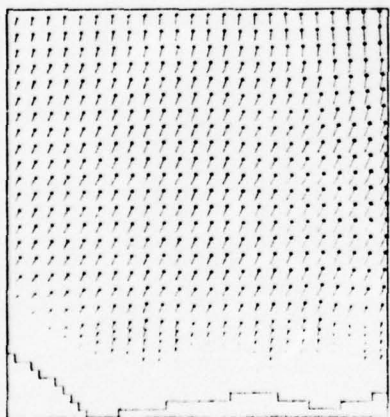
NEARSHORE HORIZONTAL VELOCITIES
AT 0-, 10-, AND 15-FT DEPTHS
WIND SPEED AND DIRECTION, 17 MPH W



20-FT DEPTH
1 FT/SEC = (→)



30-FT DEPTH
1 FT/SEC = (→)

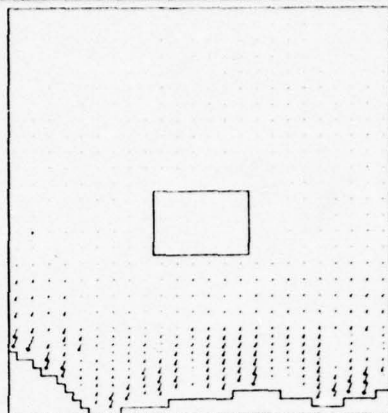
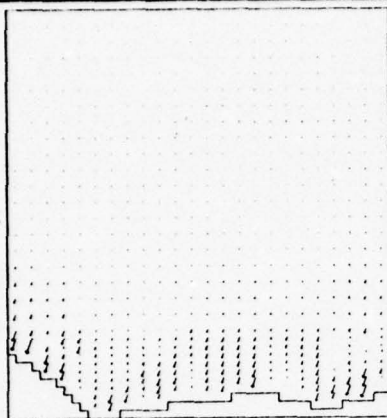


WITHOUT JETPORT

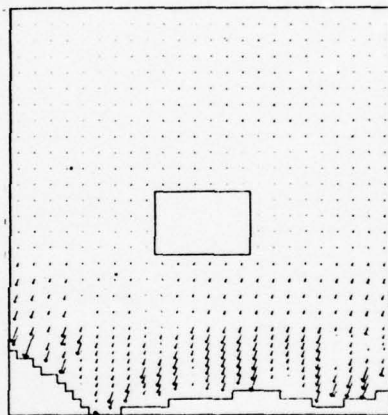
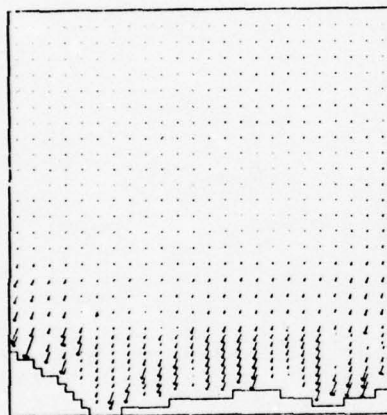
40-FT DEPTH
1 FT/SEC = (→)

WITH JETPORT

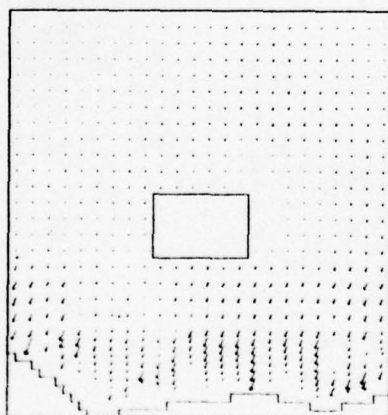
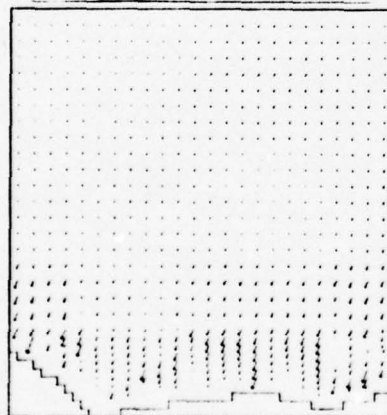
NEARSHORE HORIZONTAL VELOCITIES
AT 20-, 30-, AND 40-FT DEPTHS
WIND SPEED AND DIRECTION, 17 MPH W



10-FT DEPTH
IFT/SEC = (—) X 500



20-FT DEPTH
IFT/SEC = (—) X 500

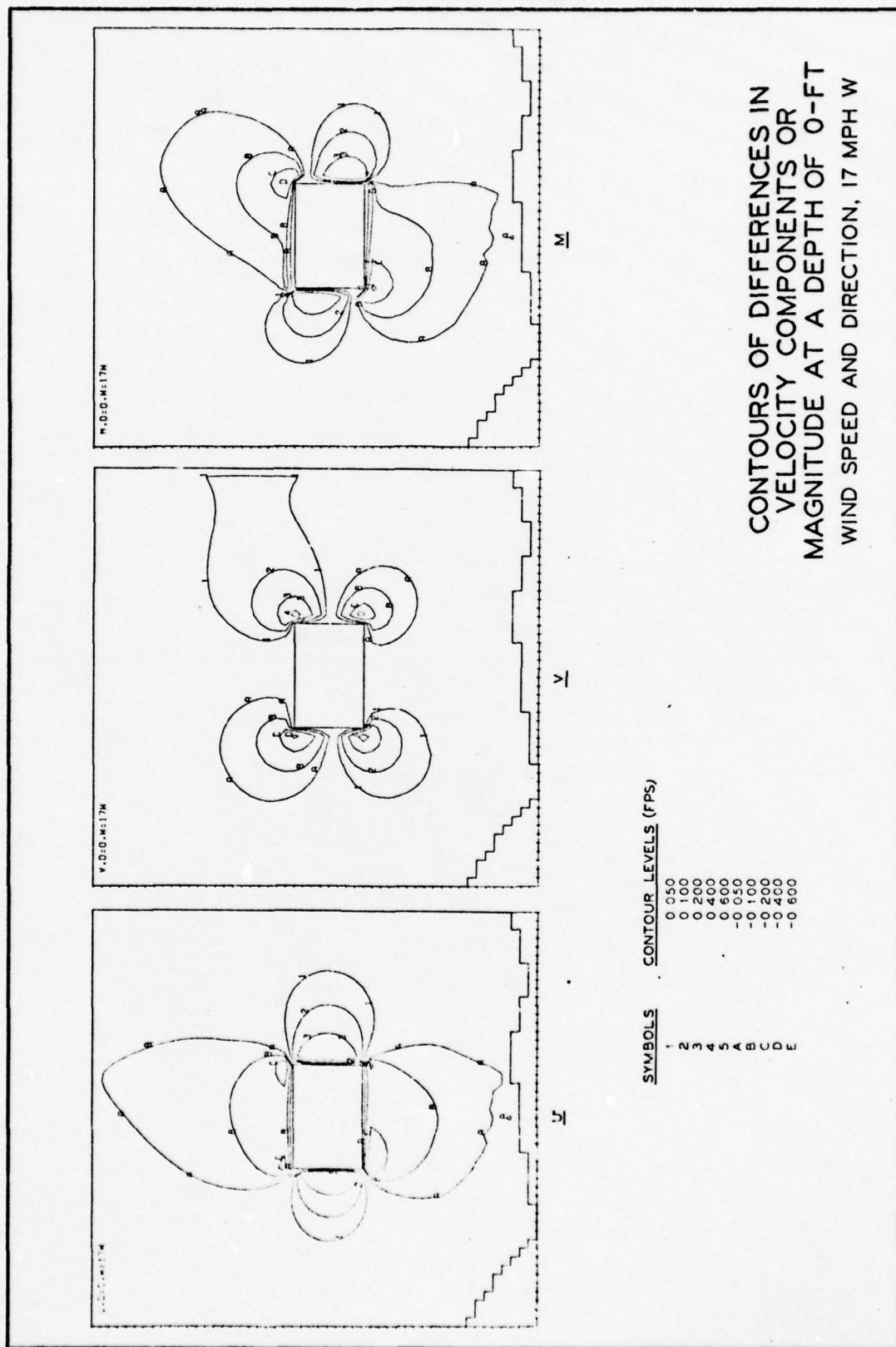


WITHOUT JETPORT

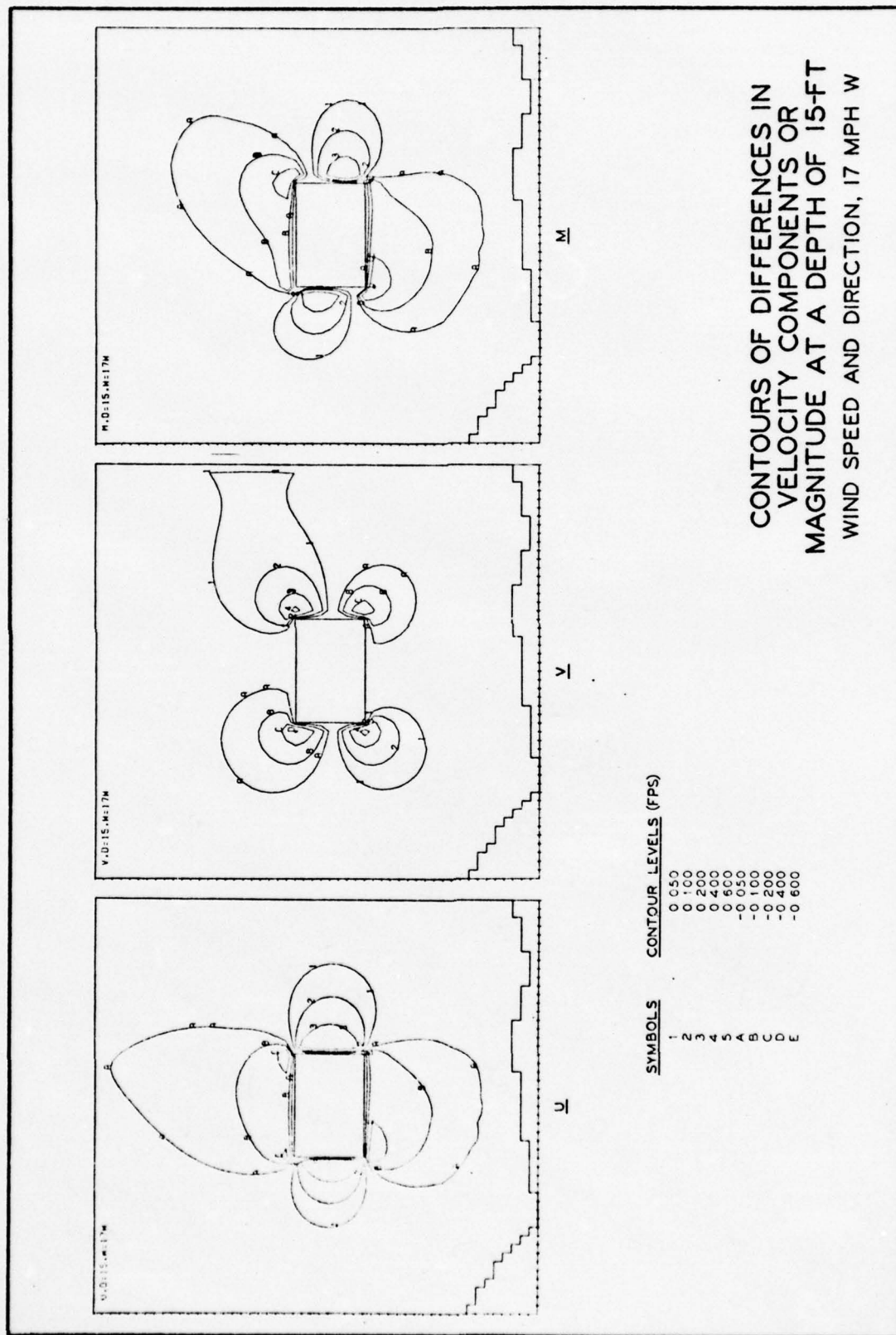
30-FT DEPTH
IFT/SEC = (—) X 500

WITH JETPORT

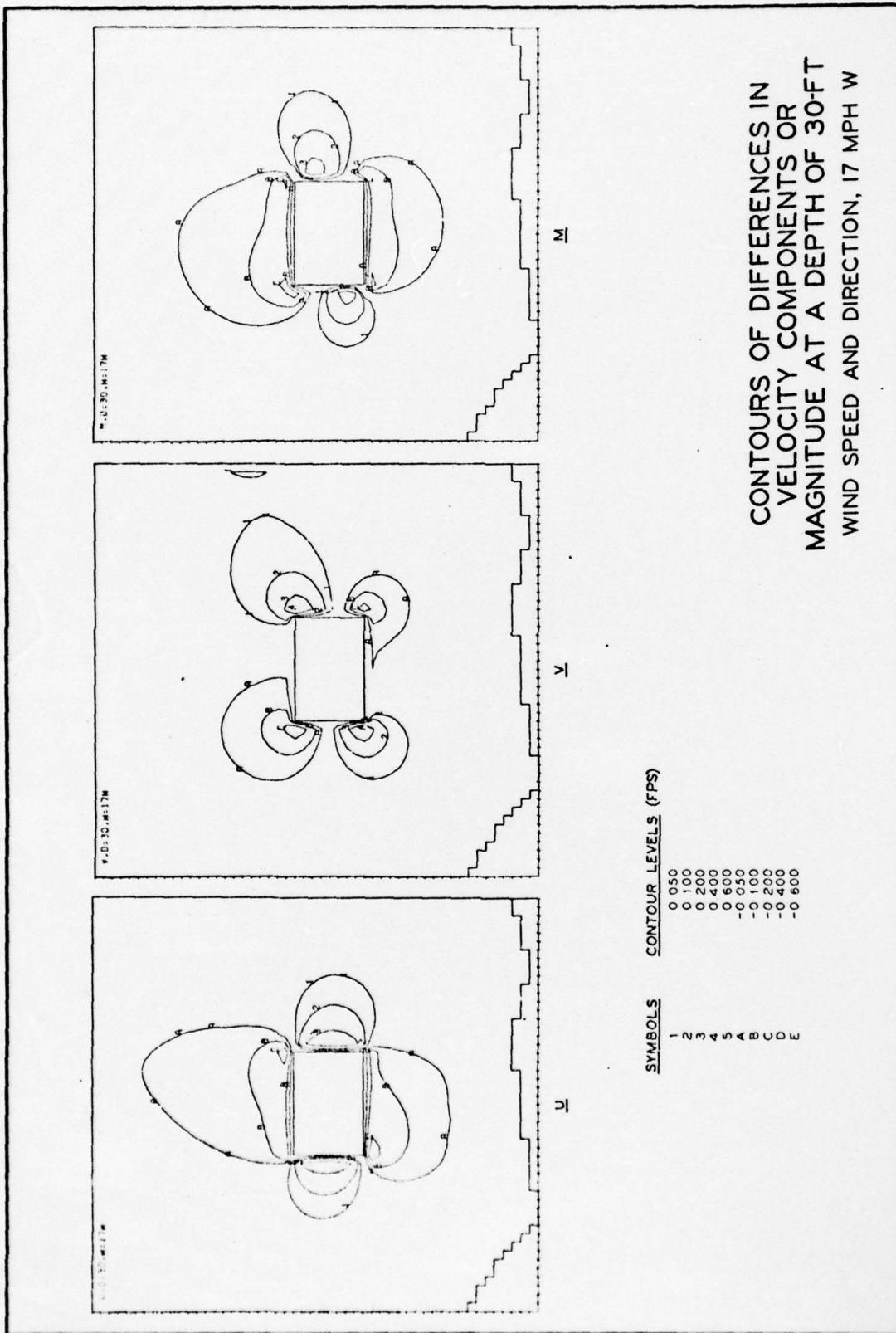
NEARSHORE VERTICAL VELOCITIES
AT 10-, 20-, AND 30-FT DEPTHS
WIND SPEED AND DIRECTION, 17 MPH W



CONTOURS OF DIFFERENCES IN
VELOCITY COMPONENTS OR
MAGNITUDE AT A DEPTH OF 0-FT
WIND SPEED AND DIRECTION, 17 MPH W



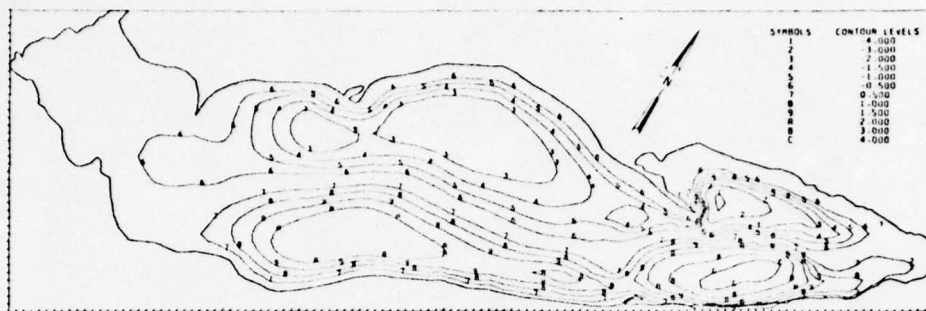
CONTOURS OF DIFFERENCES IN
VELOCITY COMPONENTS OR
MAGNITUDE AT A DEPTH OF 15-FT
WIND SPEED AND DIRECTION, 17 MPH W



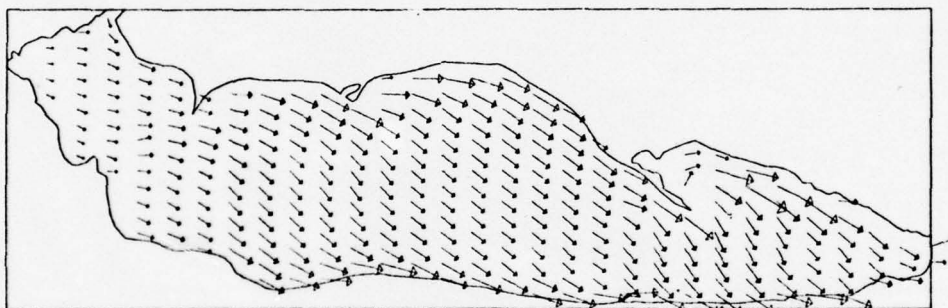
SYMBOLS CONTOUR LEVELS (FPS)

1	0.050
2	0.100
3	0.200
4	0.400
5	0.600
A	-0.050
B	-0.100
C	-0.200
D	-0.400
E	-0.600

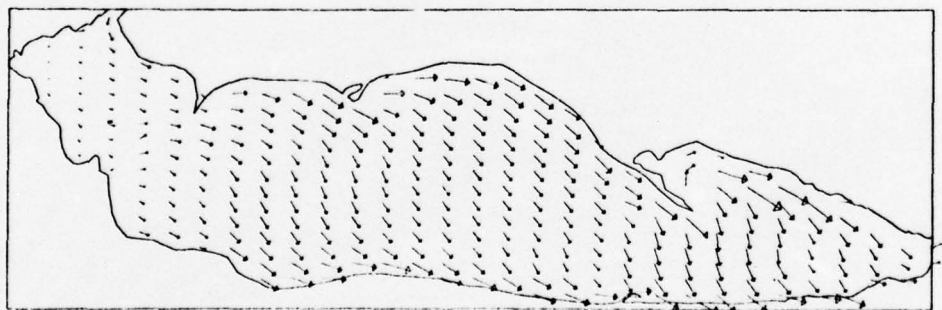
CONTOURS OF DIFFERENCES IN
VELOCITY COMPONENTS OR
MAGNITUDE AT A DEPTH OF 30-FT
WIND SPEED AND DIRECTION, 17 MPH W



CONTOURS OF NON-DIMENSIONAL STREAM FUNCTION



0-FT DEPTH



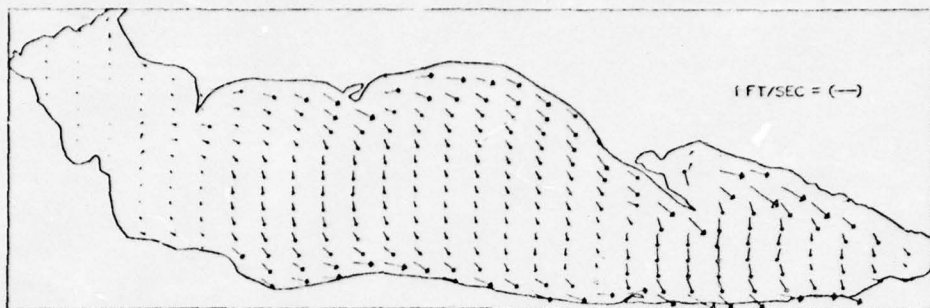
5-FT DEPTH

HORIZONTAL VELOCITIES

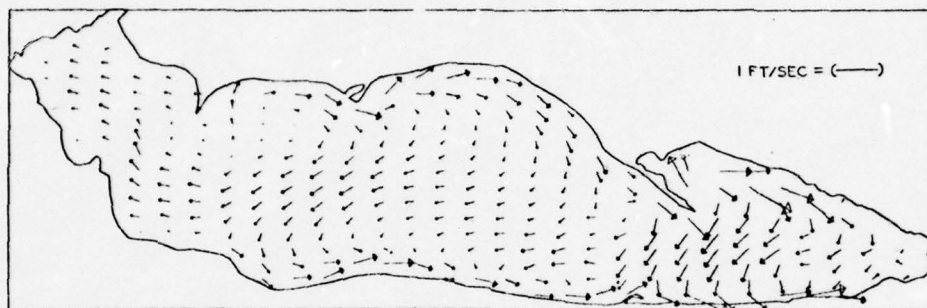
1 FT/SEC = (—)

STREAM FUNCTION
CONTOURS AND HORIZONTAL
VELOCITIES FOR LAKE ERIE

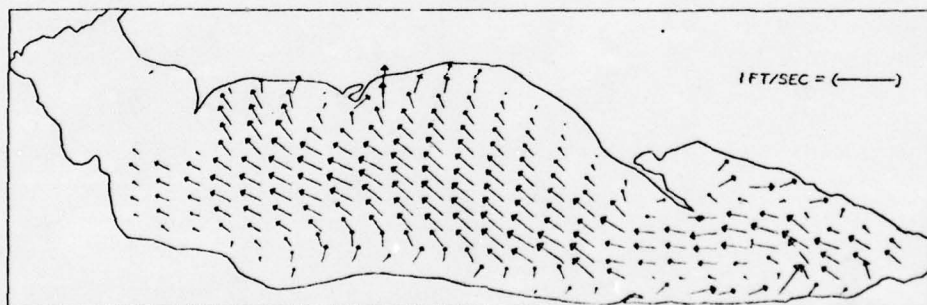
WIND SPEED AND
DIRECTION, 17 MPH WSW



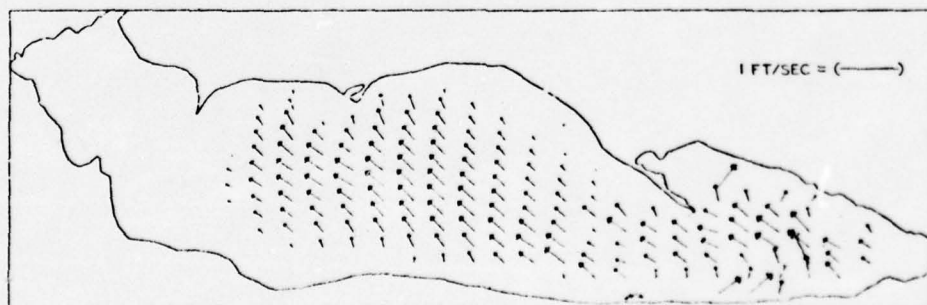
10-FT DEPTH



20-FT DEPTH

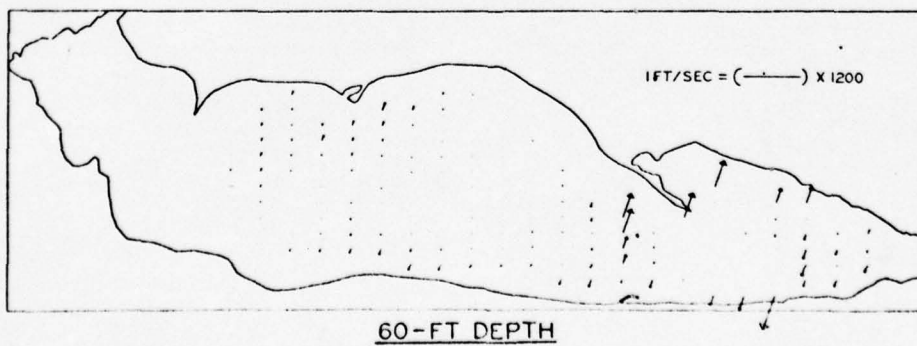
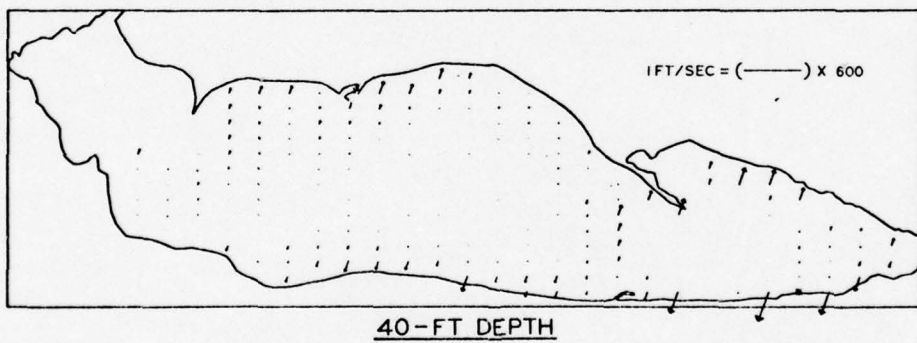
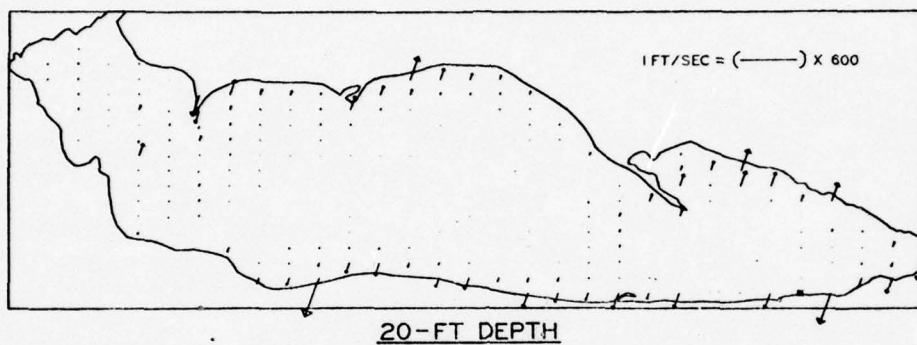
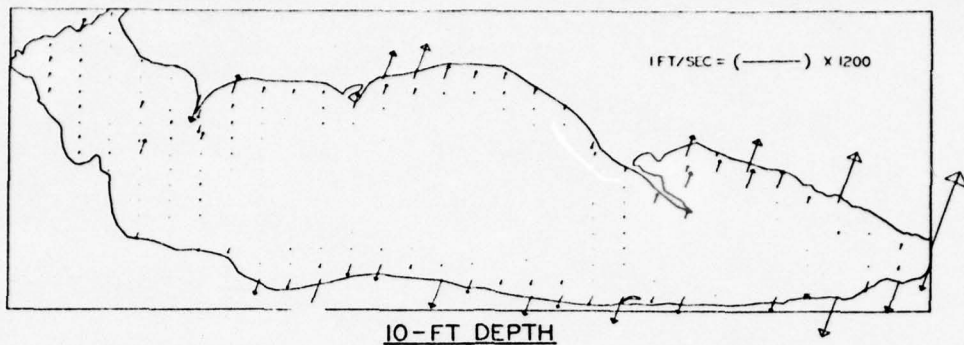


40-FT DEPTH

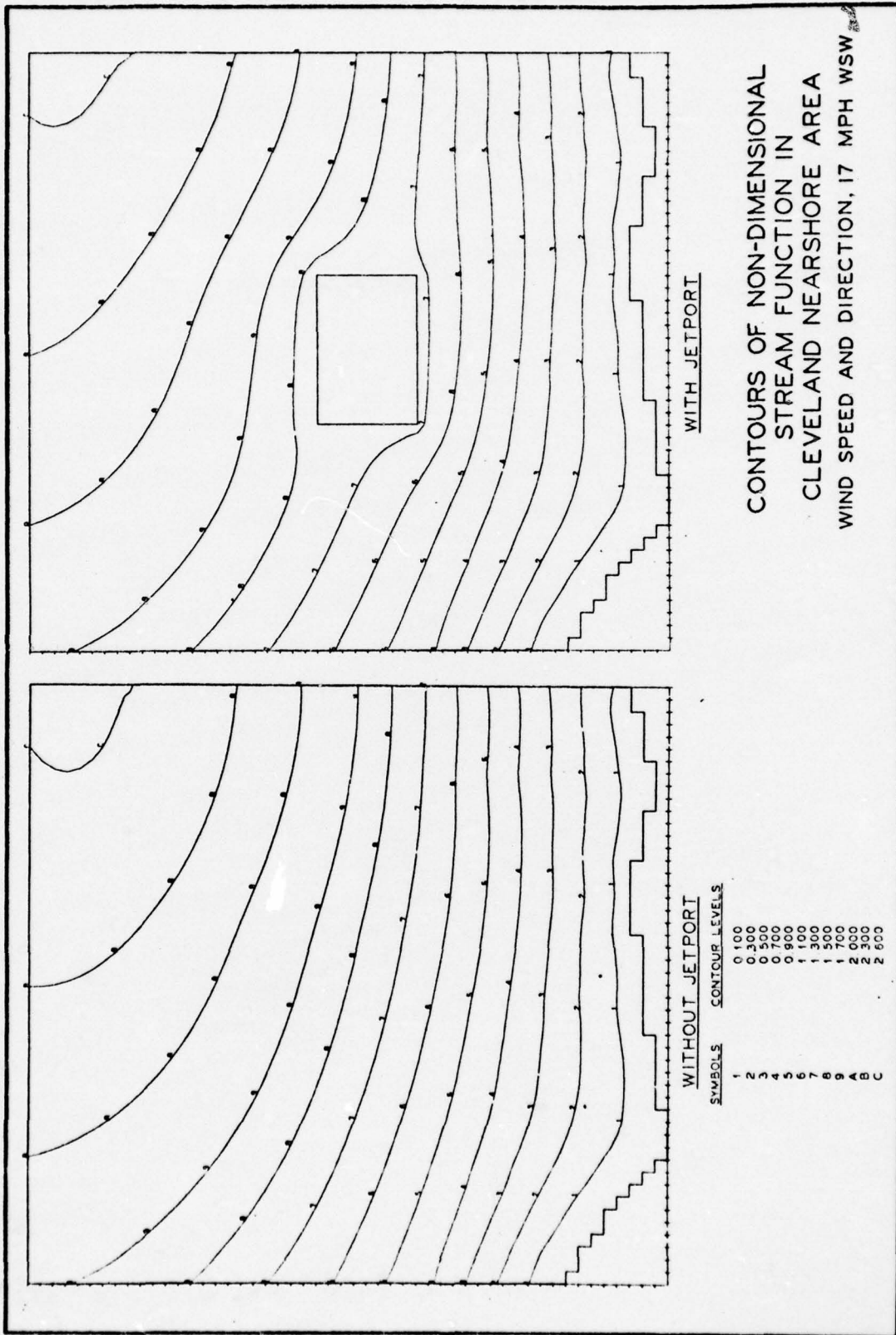


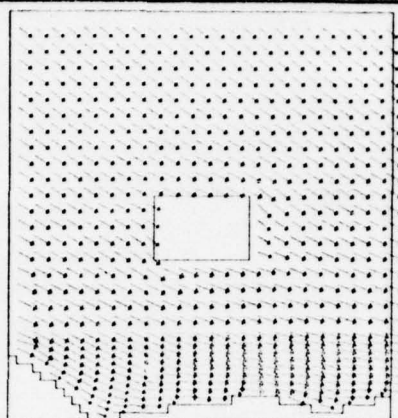
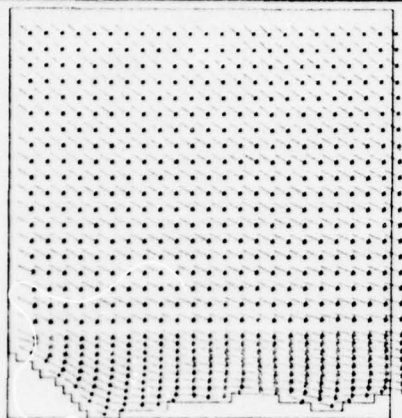
60-FT DEPTH

HORIZONTAL VELOCITIES AT
10-, 20-, 40-, AND 60-FT DEPTHS
WIND SPEED AND DIRECTION, 17 MPH WSW

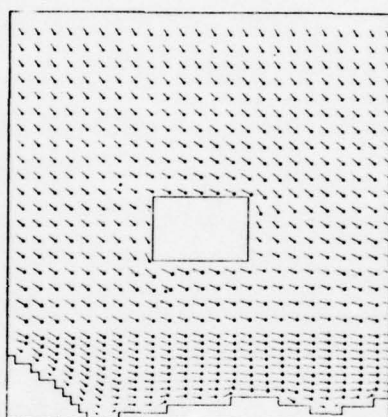
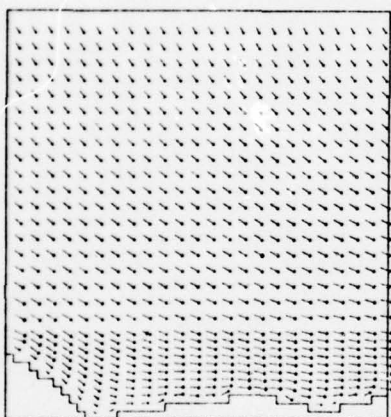


VERTICAL VELOCITIES AT
10-, 20-, 40-, AND 60-FT DEPTHS
WIND SPEED AND DIRECTION, 17 MPH WSW

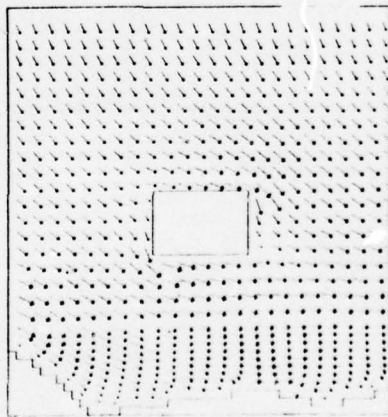
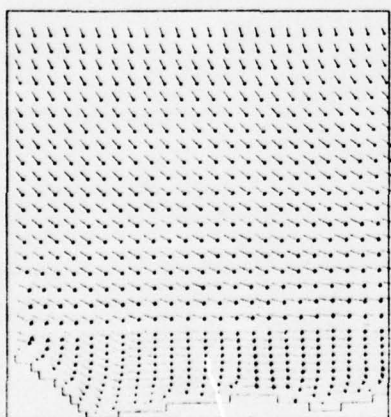




0-FT DEPTH
1 FT/SEC = (—)



10-FT DEPTH
1 FT/SEC = (—)

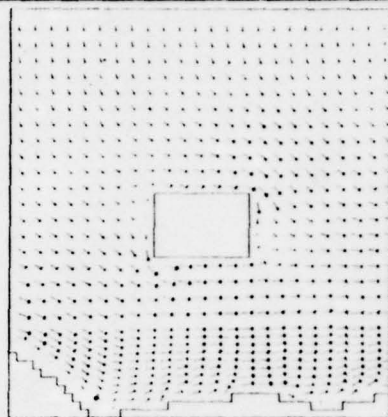
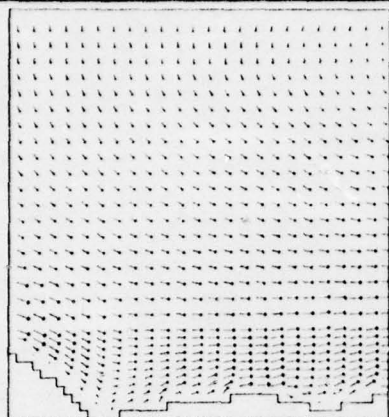


WITHOUT JETPORT

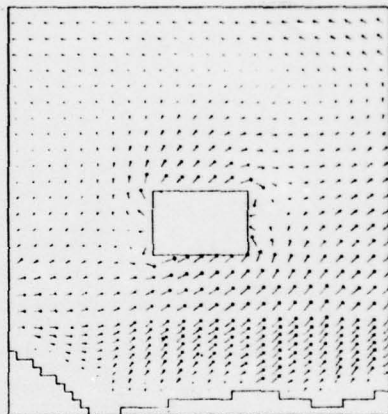
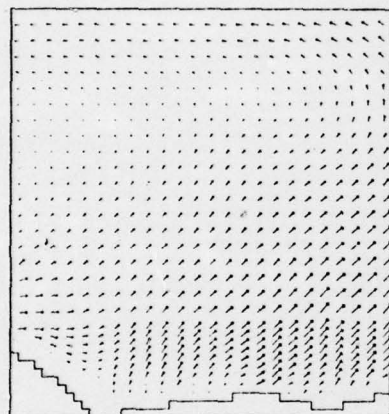
15-FT DEPTH
1 FT/SEC = (—)

WITH JETPORT

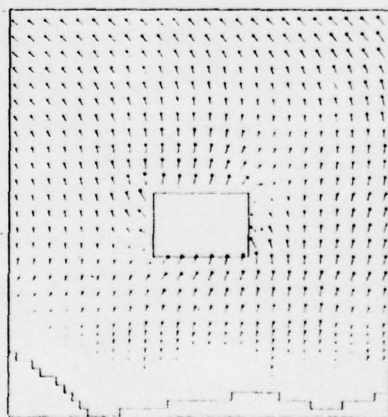
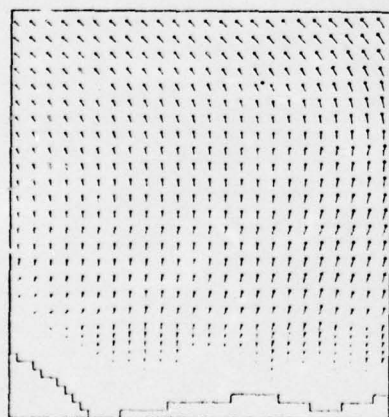
NEARSHORE HORIZONTAL VELOCITIES
AT 0-, 10-, AND 15-FT DEPTHS
WIND SPEED AND DIRECTION, 17 MPH WSW



20-FT DEPTH
1 FT/SEC = (→)



30-FT DEPTH
1 FT/SEC = (→)



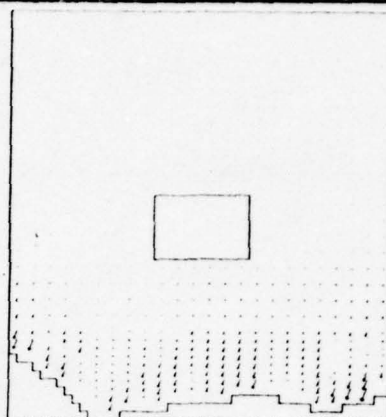
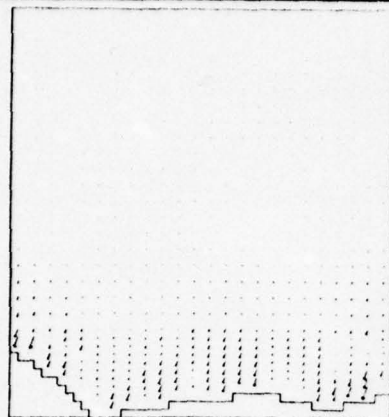
WITHOUT JETPORT

40-FT DEPTH
1 FT/SEC = (→)

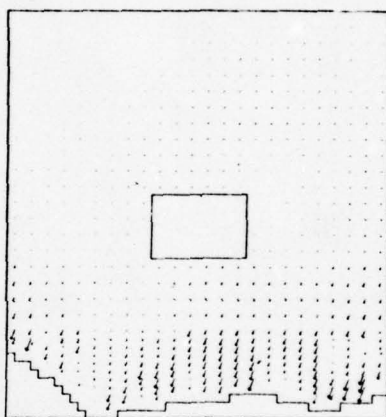
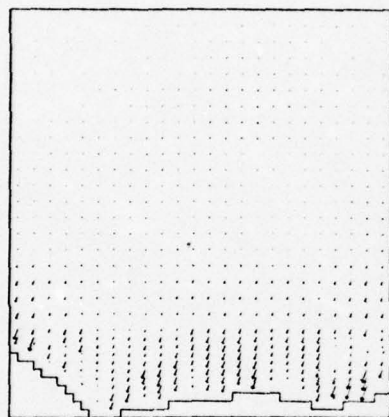
WITH JETPORT

NEARSHORE HORIZONTAL VELOCITIES AT 20-, 30-, AND 40-FT DEPTHS

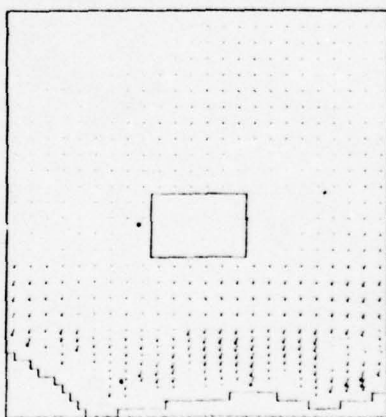
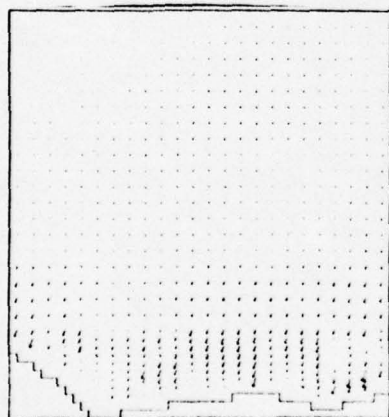
WIND SPEED AND DIRECTION, 17 MPH WSW



10-FT DEPTH
1 FT/SEC = (—) X 500



20-FT DEPTH
1 FT/SEC = (—) X 500

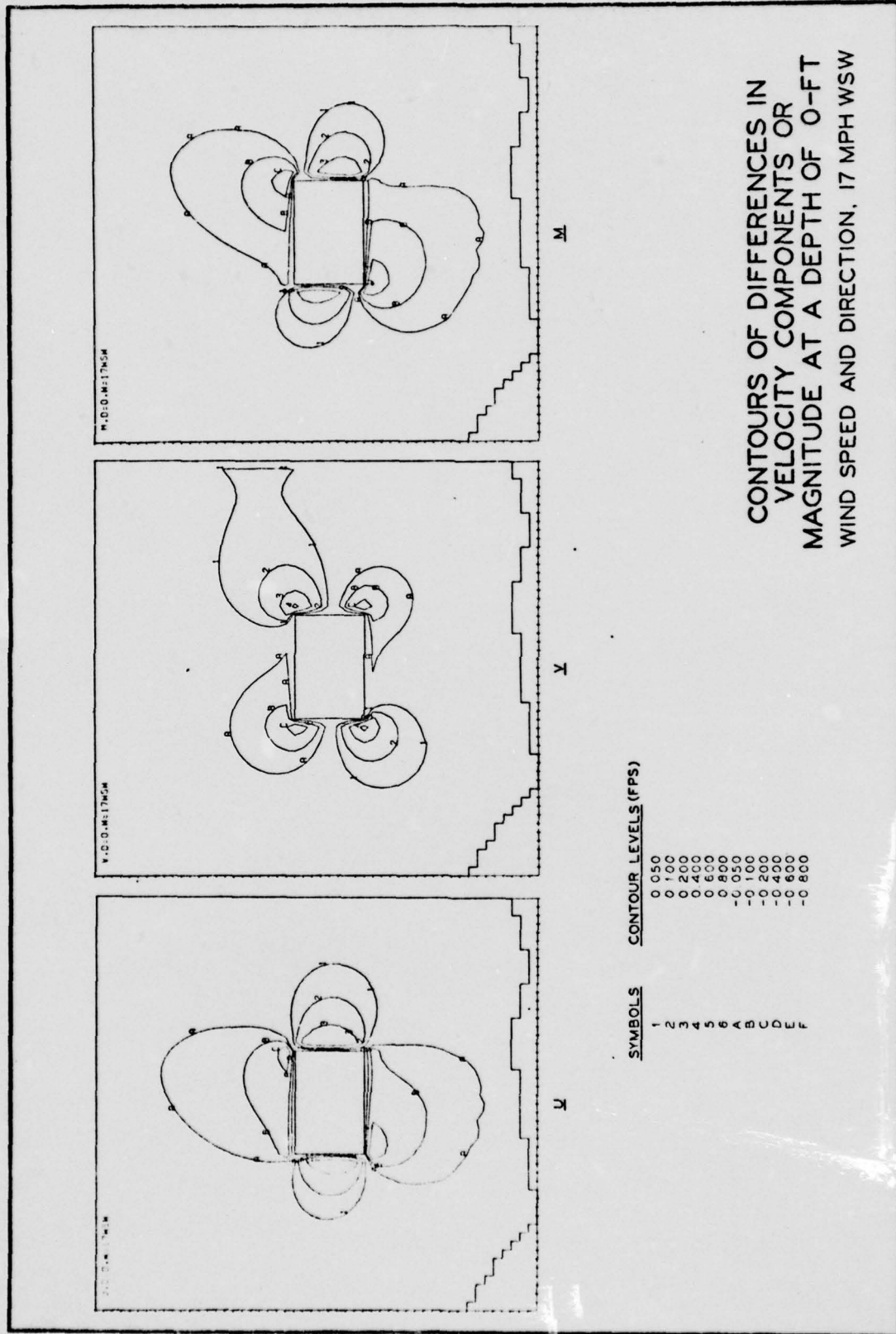


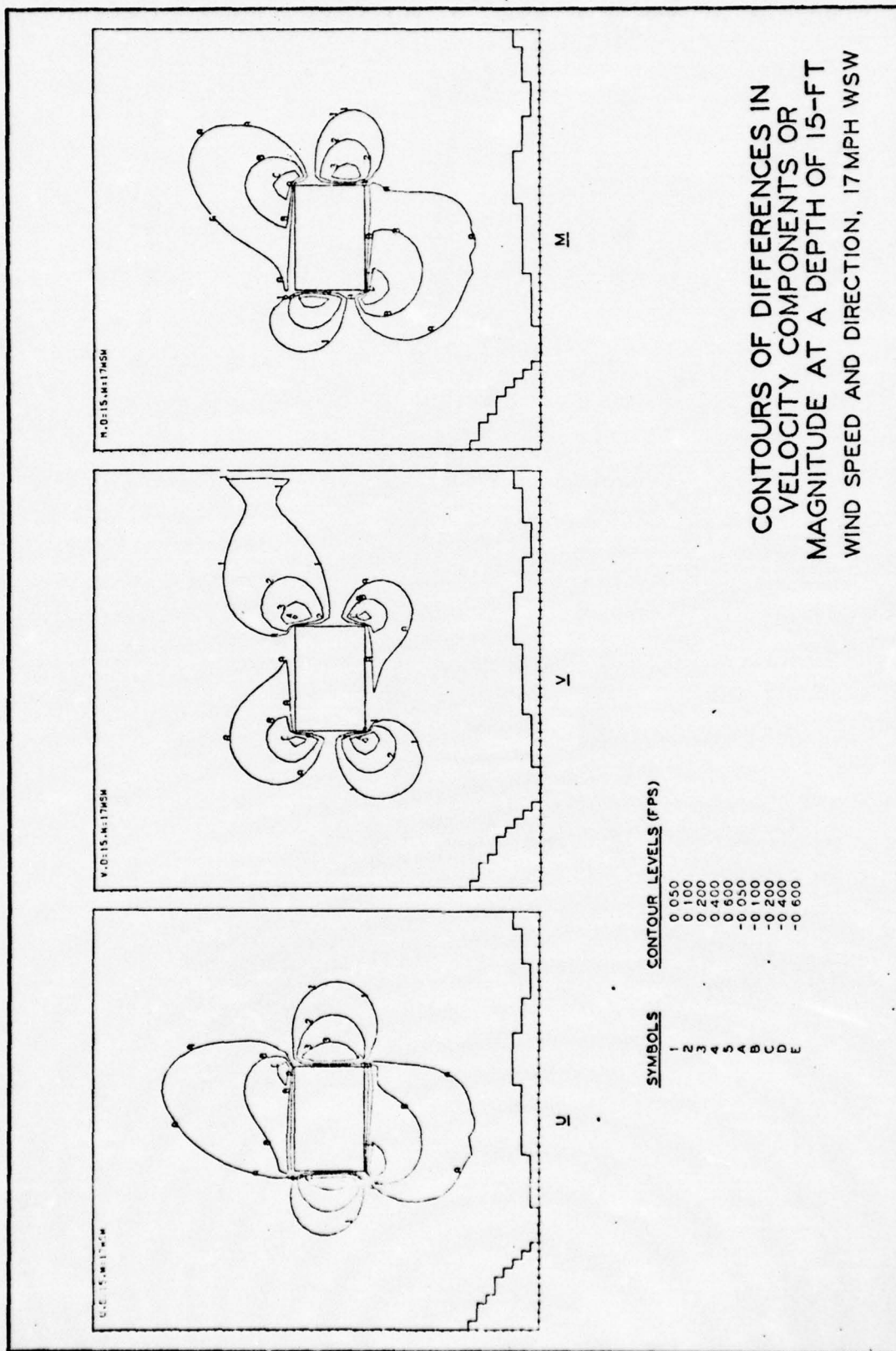
WITHOUT JETPORT

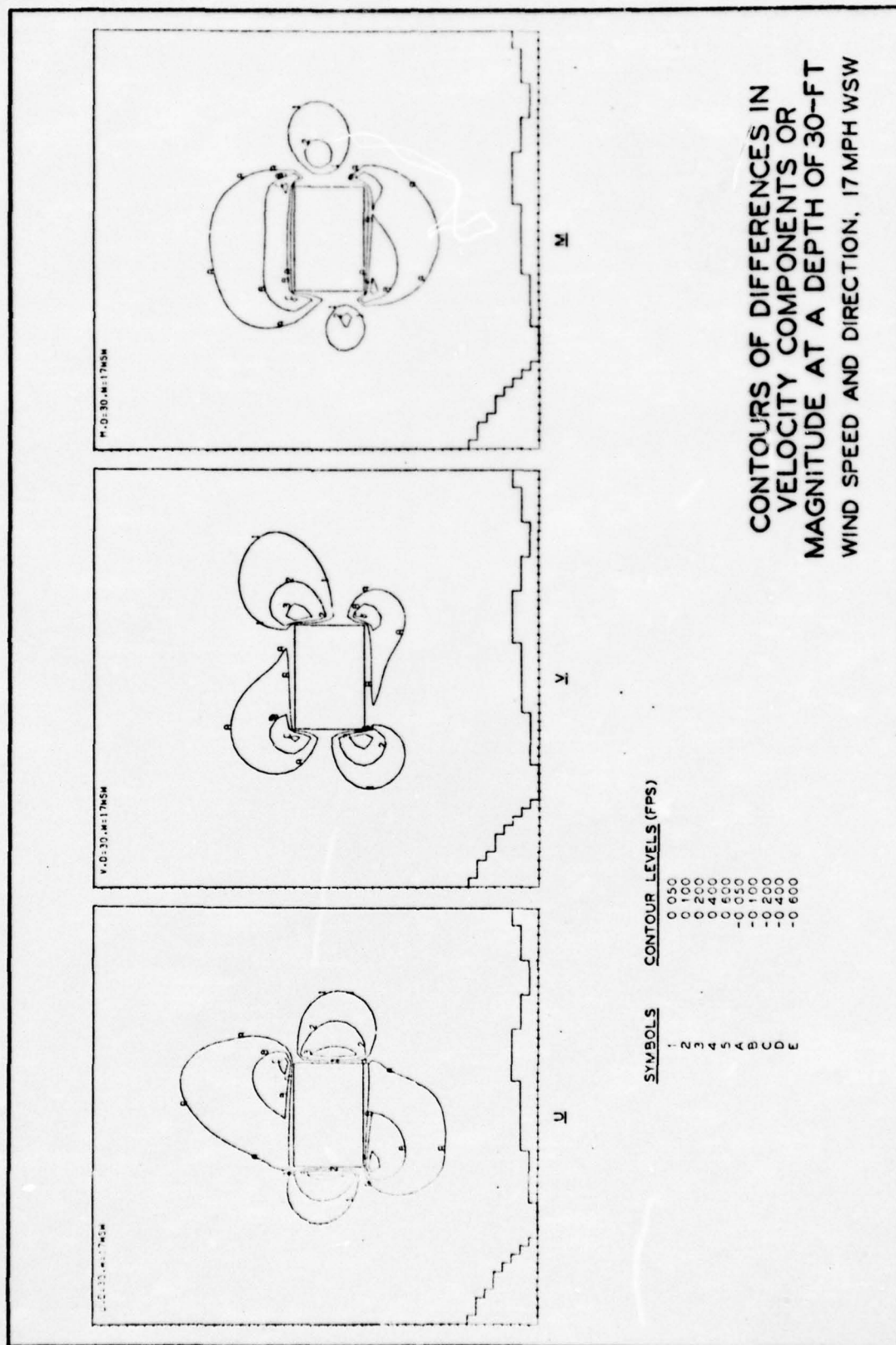
30-FT DEPTH
1 FT/SEC = (—) X 500

WITH JETPORT

NEARSHORE VERTICAL VELOCITIES
AT 10-, 20-, AND 30-FT DEPTHS
WIND SPEED AND DIRECTION, 17 MPH WSW



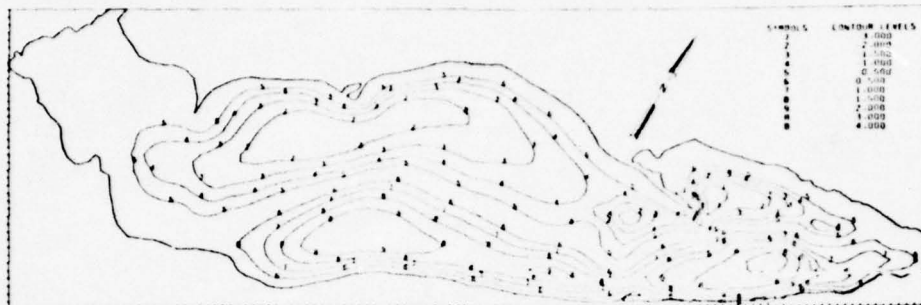




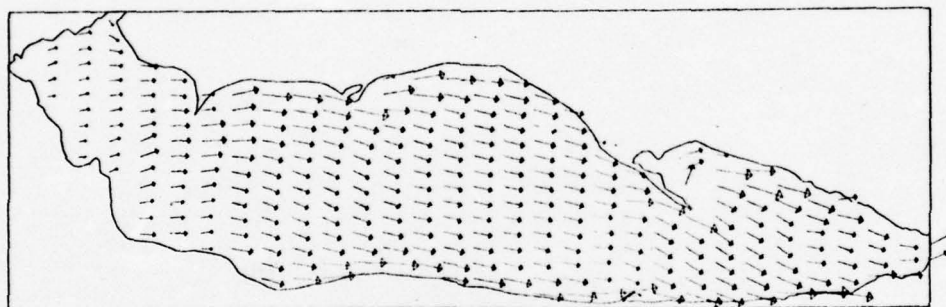
SYMBOLS CONTOUR LEVELS (FPS)

0.050
0.100
0.200
0.400
0.600
-0.050
-0.100
-0.200
-0.400
-0.600

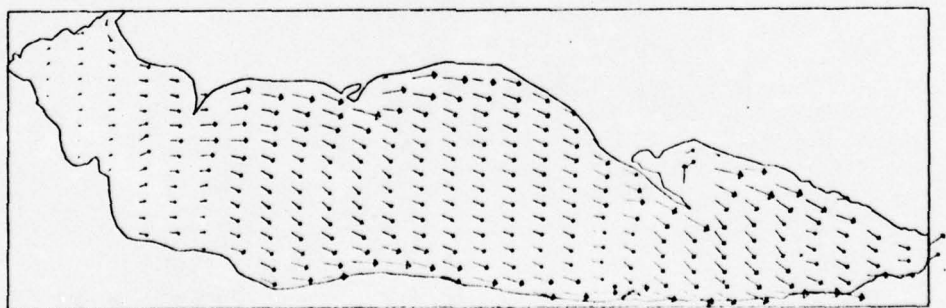
CONTOURS OF DIFFERENCES IN
VELOCITY COMPONENTS OR
MAGNITUDE AT A DEPTH OF 30-FT
WIND SPEED AND DIRECTION, 17 MPH WSW



CONTOURS OF NON-DIMENSIONAL STREAM FUNCTION



0-FT. DEPTH



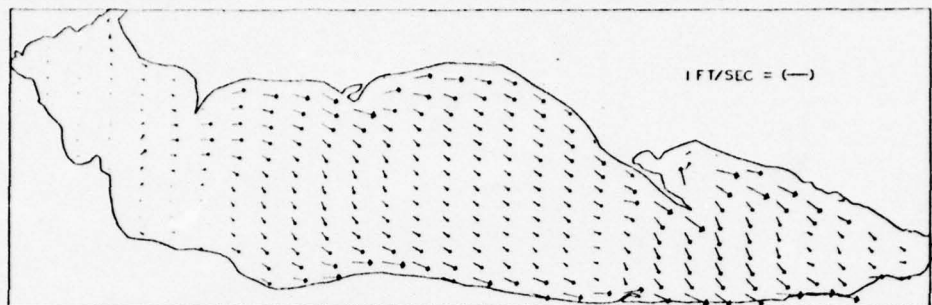
5-FT. DEPTH

HORIZONTAL VELOCITIES

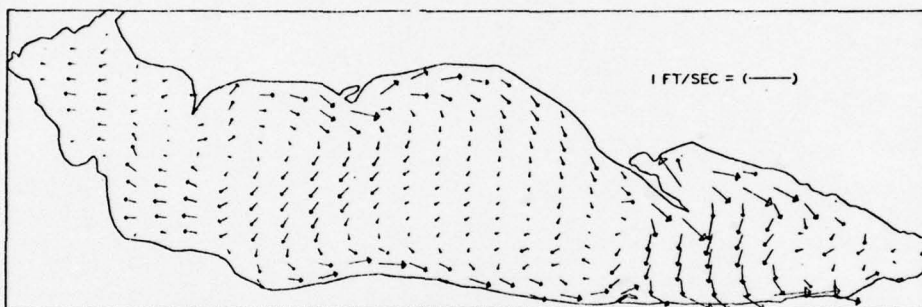
1 FT/SEC = (—)

STREAM FUNCTION
CONTOURS AND HORIZONTAL
VELOCITIES FOR LAKE ERIE

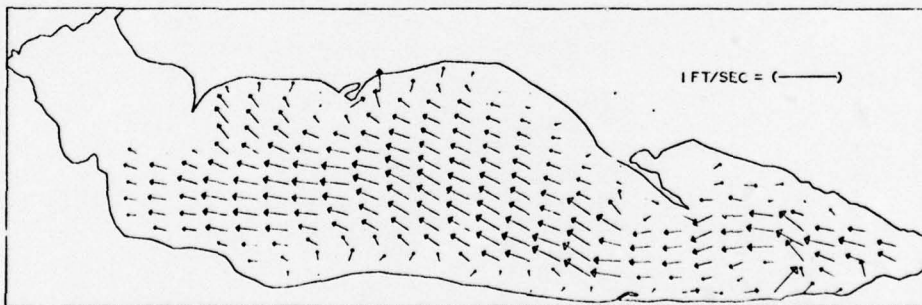
WIND SPEED AND
DIRECTION, 17 MPH SW



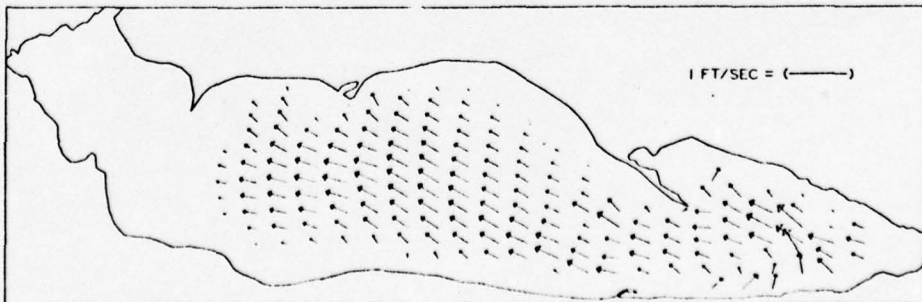
10-FT DEPTH



20-FT DEPTH

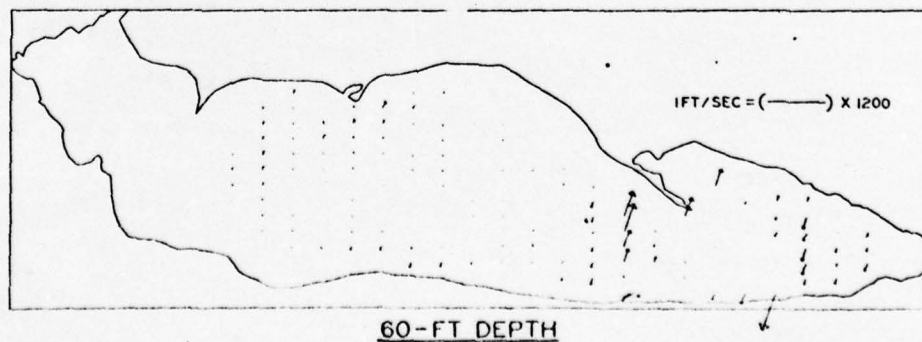
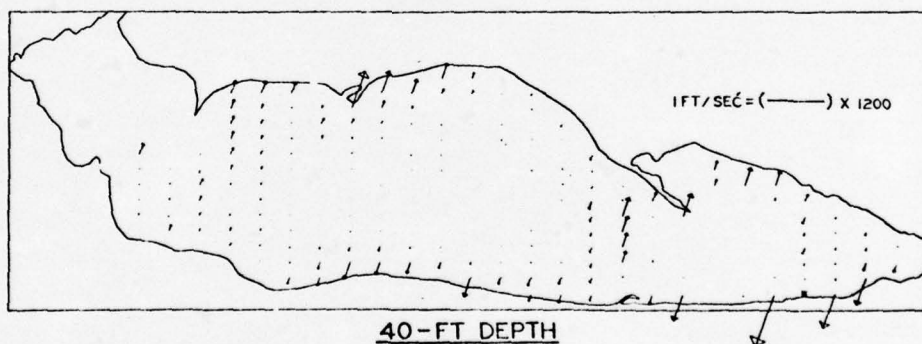
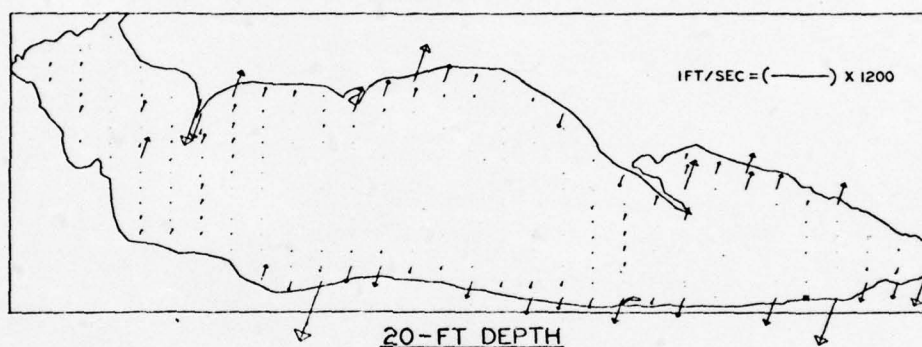
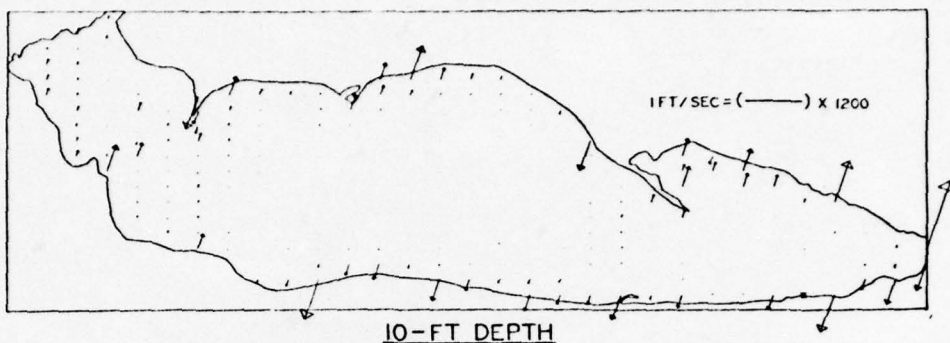


40-FT DEPTH

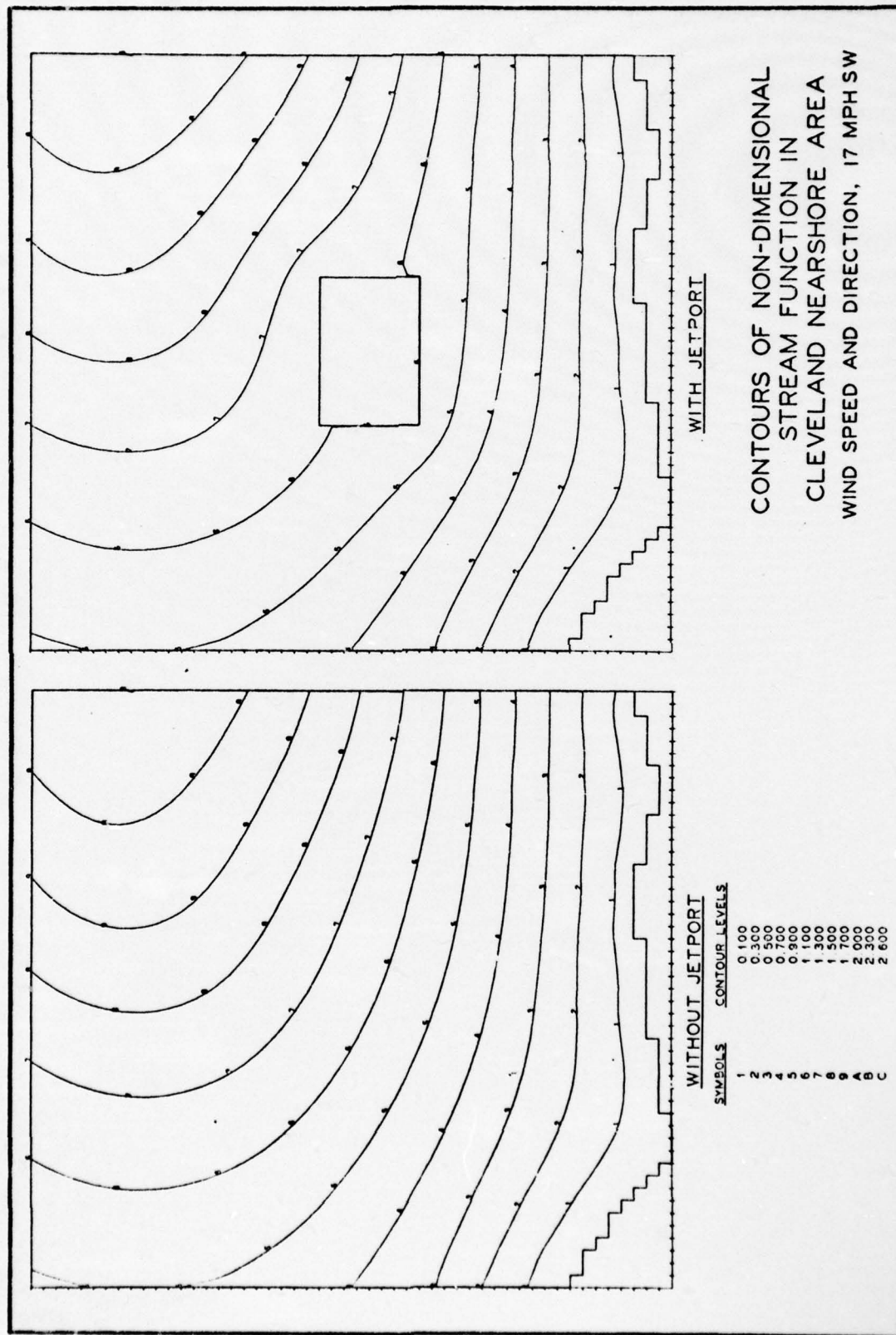


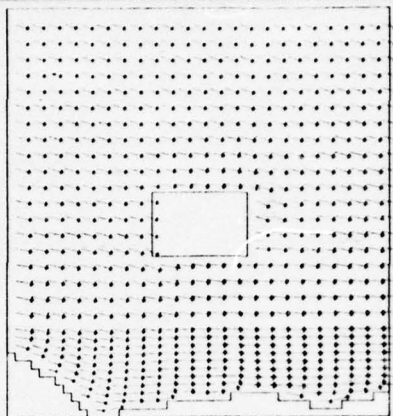
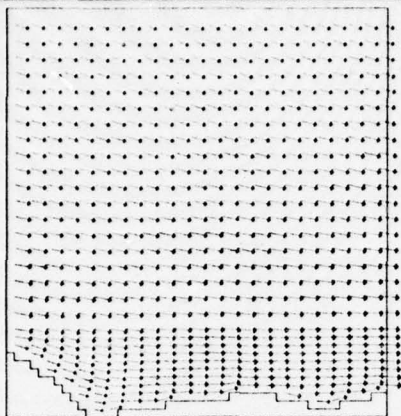
60-FT. DEPTH

HORIZONTAL VELOCITIES AT
10-, 20-, 40-, AND 60-FT DEPTHS
WIND SPEED AND DIRECTION, 17 MPH SW

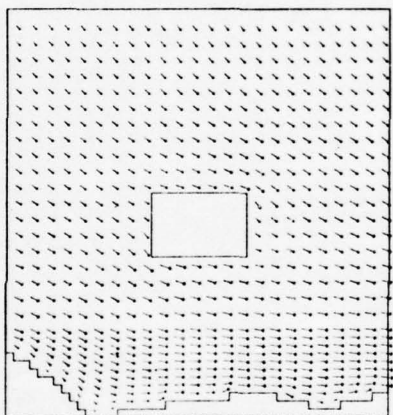
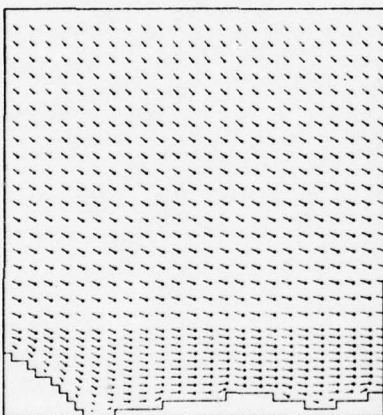


VERTICAL VELOCITIES AT
10-, 20-, 40-, AND 60-FT DEPTHS
WIND SPEED AND DIRECTION, 17 MPH SW

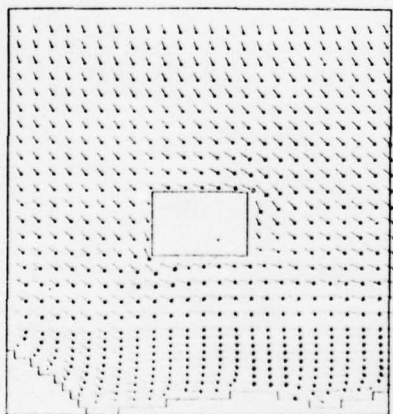
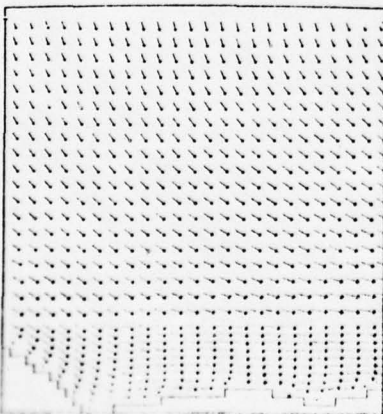




0-FT DEPTH
1 FT/SEC = (—)



10-FT DEPTH
1 FT/SEC = (—)

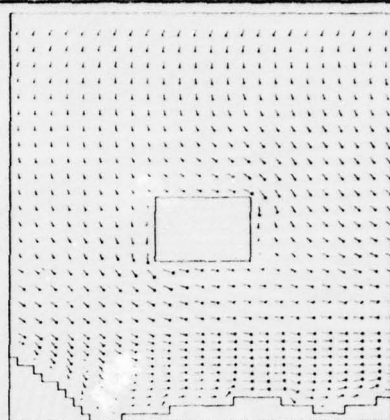
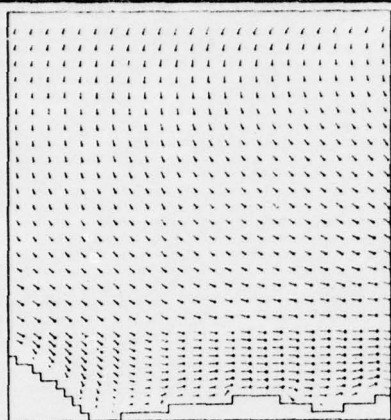


WITHOUT JETPORT

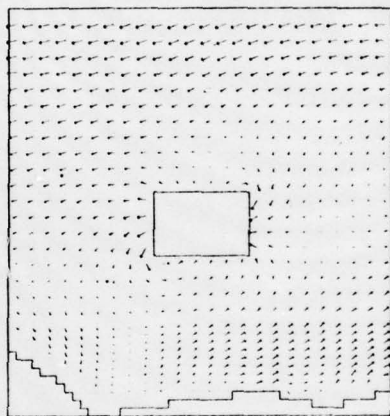
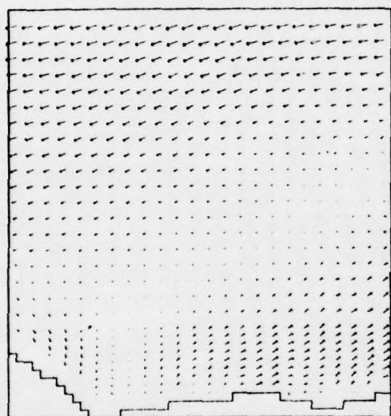
15-FT DEPTH
1 FT/SEC = (—)

WITH JETPORT

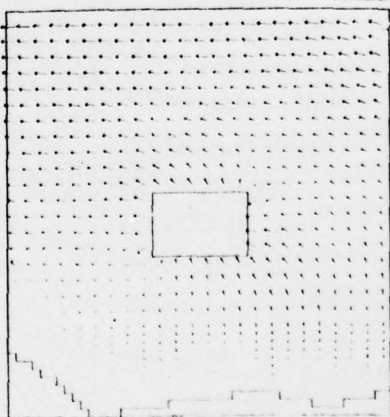
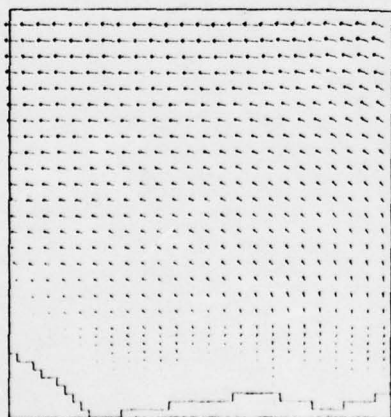
NEARSHORE HORIZONTAL VELOCITIES
AT 0-, 10-, AND 15-FT DEPTHS
WIND SPEED AND DIRECTION, 17 MPH SW



20-FT DEPTH
1 FT/SEC = (→)



30-FT DEPTH
1 FT/SEC = (→)

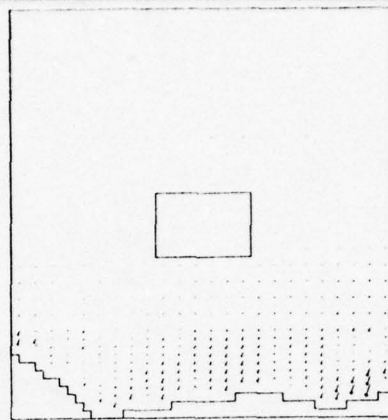
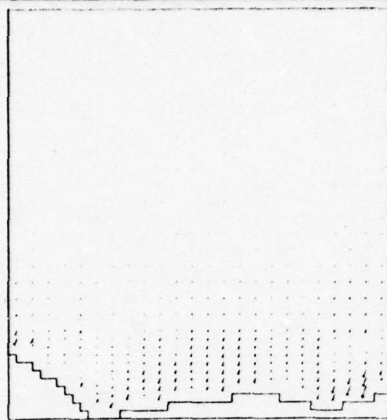


WITHOUT JETPORT

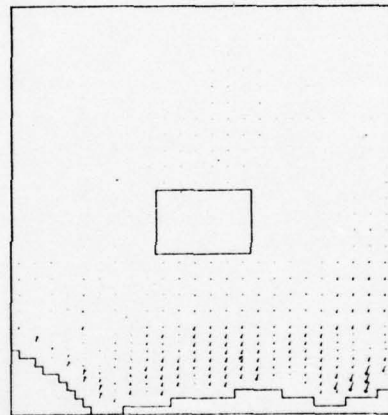
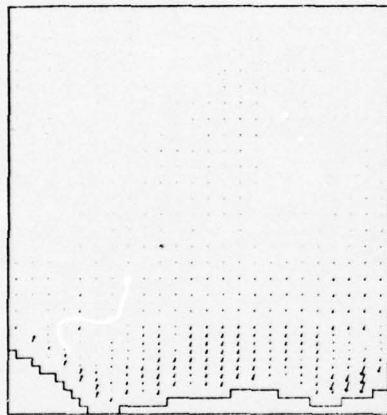
40-FT DEPTH
1 FT/SEC = (→)

WITH JETPORT

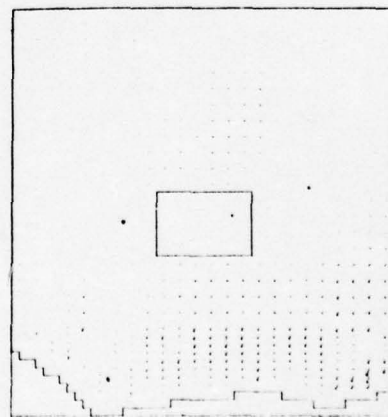
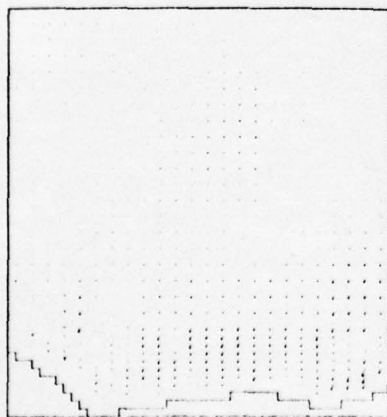
NEARSHORE HORIZONTAL VELOCITIES
AT 20-, 30-, AND 40-FT DEPTHS
WIND SPEED AND DIRECTION, 17 MPH SW



10-FT DEPTH
1 FT/SEC = (—) x 500



20-FT DEPTH
1 FT/SEC = (—) x 500

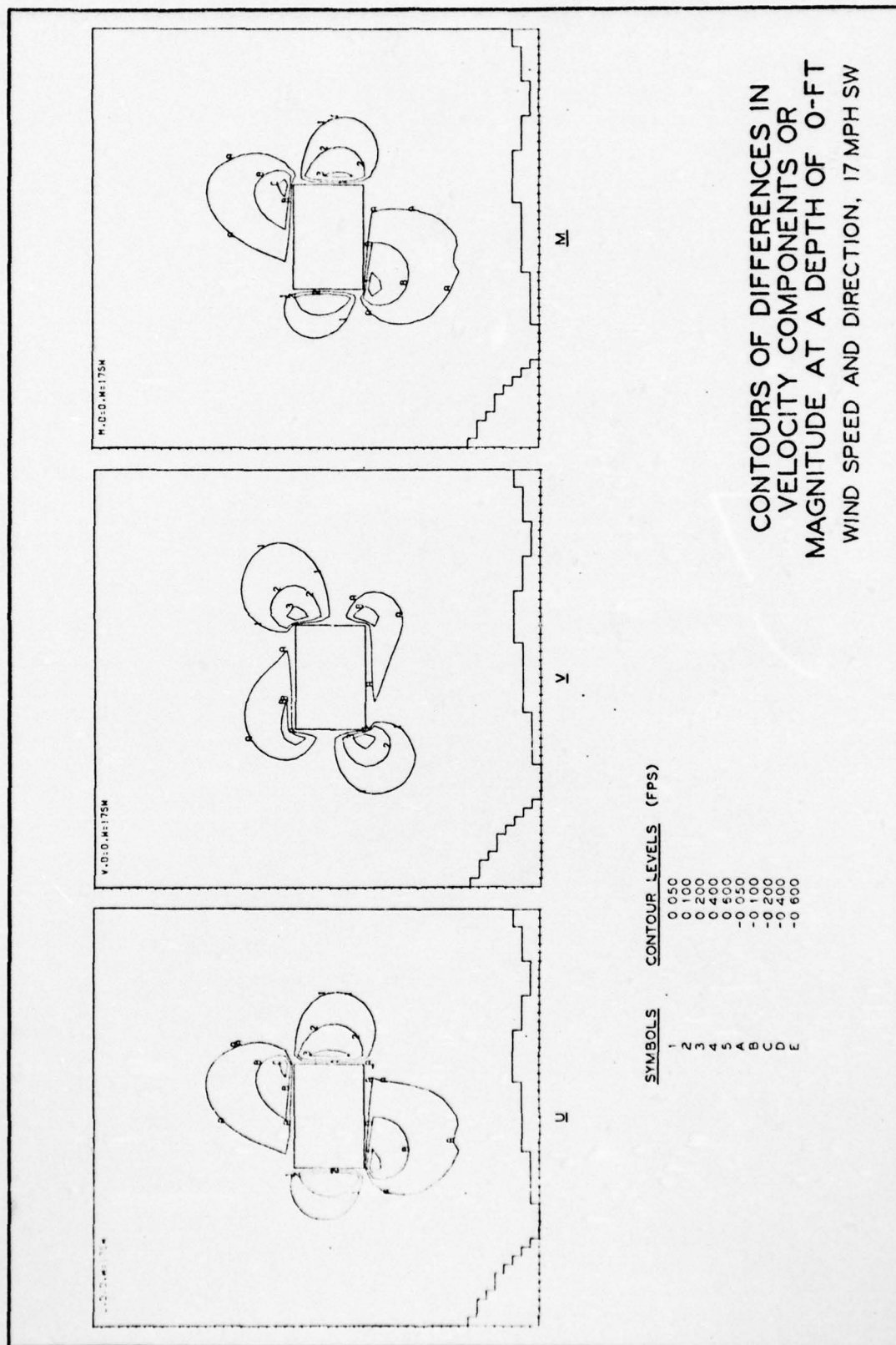


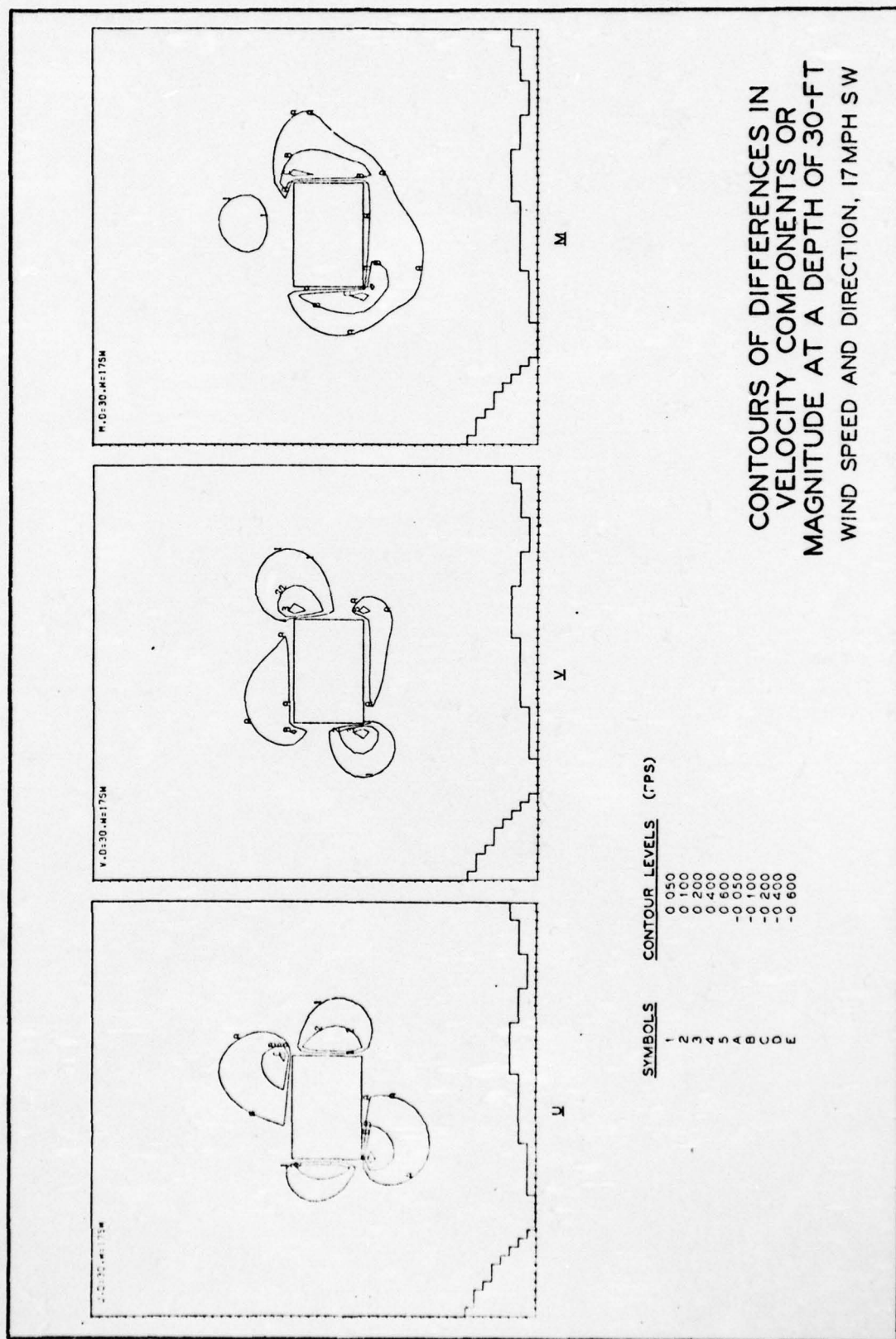
WITHOUT JETPORT

30-FT DEPTH
1 FT/SEC = (—) x 500

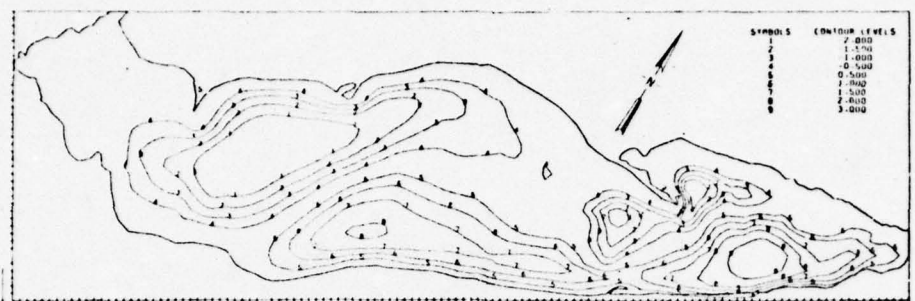
WITH JETPORT

NEARSHORE VERTICAL VELOCITIES
AT 10-, 20-, AND 30-FT DEPTHS
WIND SPEED AND DIRECTION, 17 MPH SW

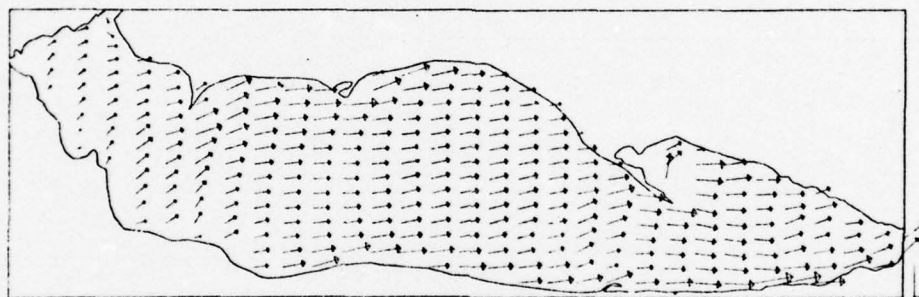




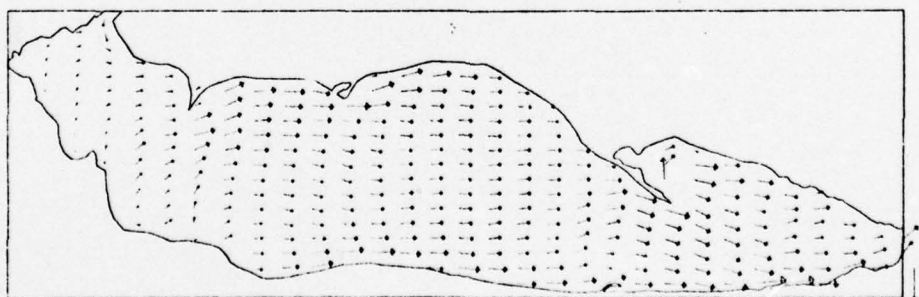
CONTOURS OF DIFFERENCES IN
VELOCITY COMPONENTS OR
MAGNITUDE AT A DEPTH OF 30-FT
WIND SPEED AND DIRECTION, 17 MPH SW



CONTOURS OF NON-DIMENSIONAL STREAM FUNCTION



0-FT DEPTH



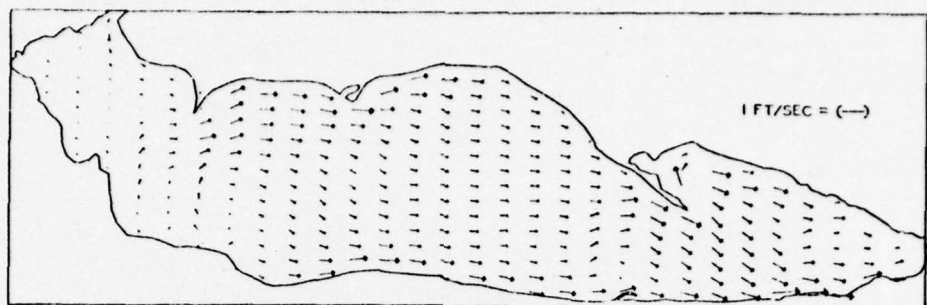
5-FT DEPTH

HORIZONTAL VELOCITIES

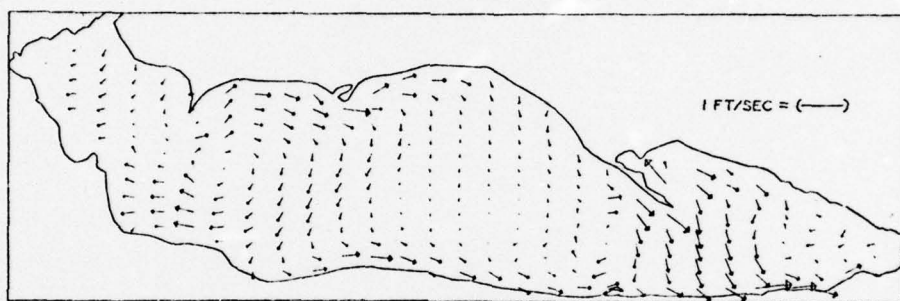
1 FT/SEC = (—)

STREAM FUNCTION
CONTOURS AND HORIZONTAL
VELOCITIES FOR LAKE ERIE

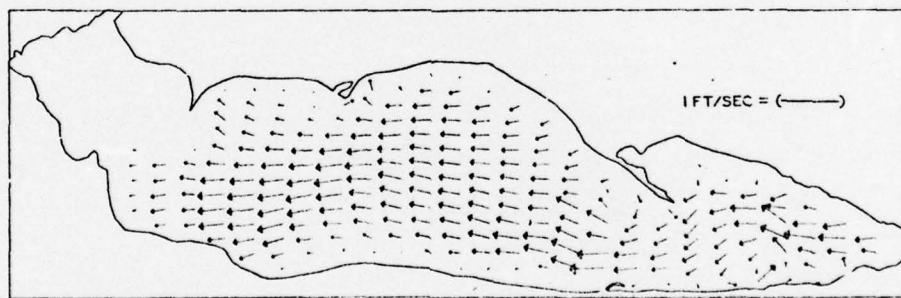
WIND SPEED AND
DIRECTION, 17 MPH SSW



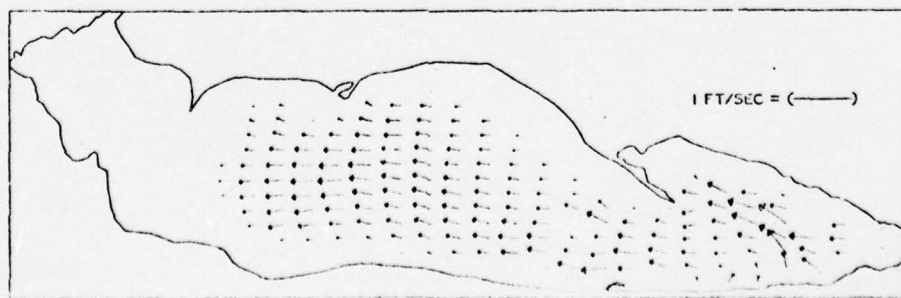
10-FT DEPTH



20-FT DEPTH

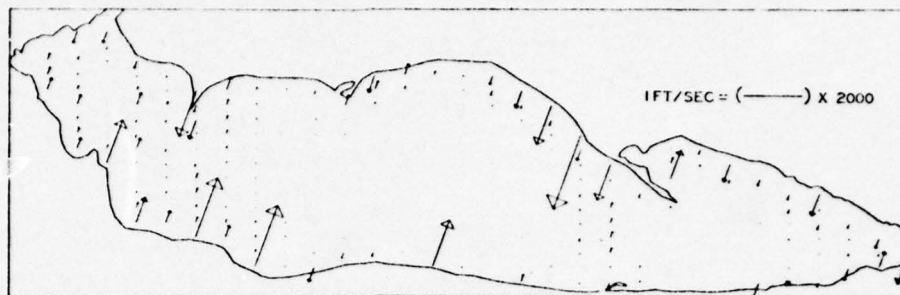


40-FT DEPTH

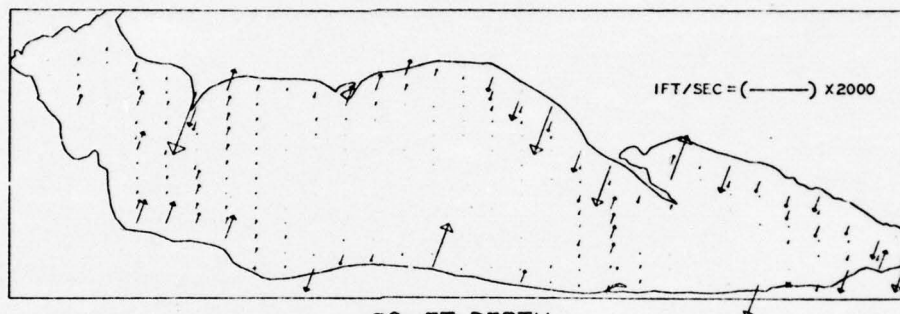


60-FT DEPTH

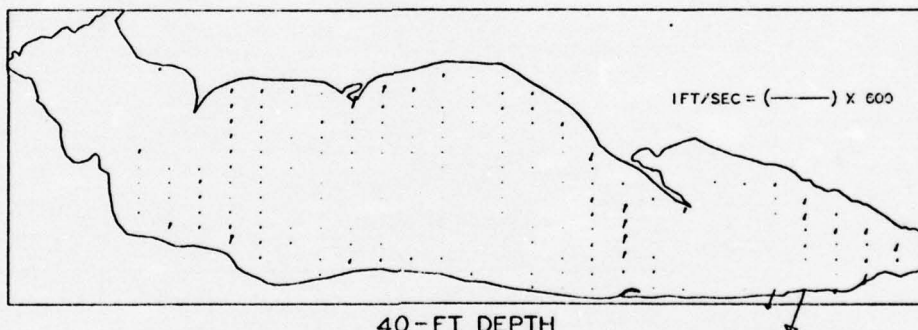
HORIZONTAL VELOCITIES AT
10-, 20-, 40-, AND 60-FT DEPTHS
WIND SPEED AND DIRECTION, 17 MPH SSW



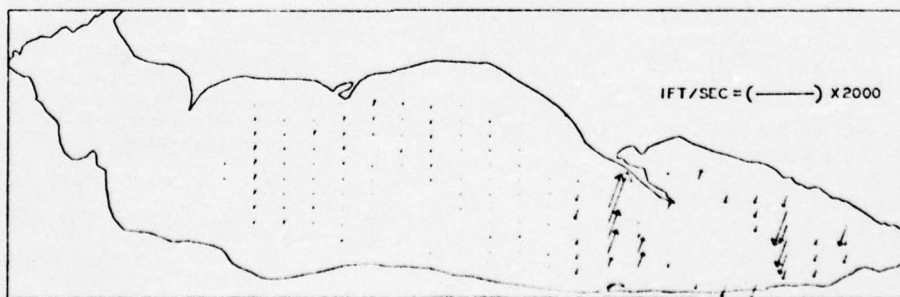
10-FT DEPTH



20-FT DEPTH

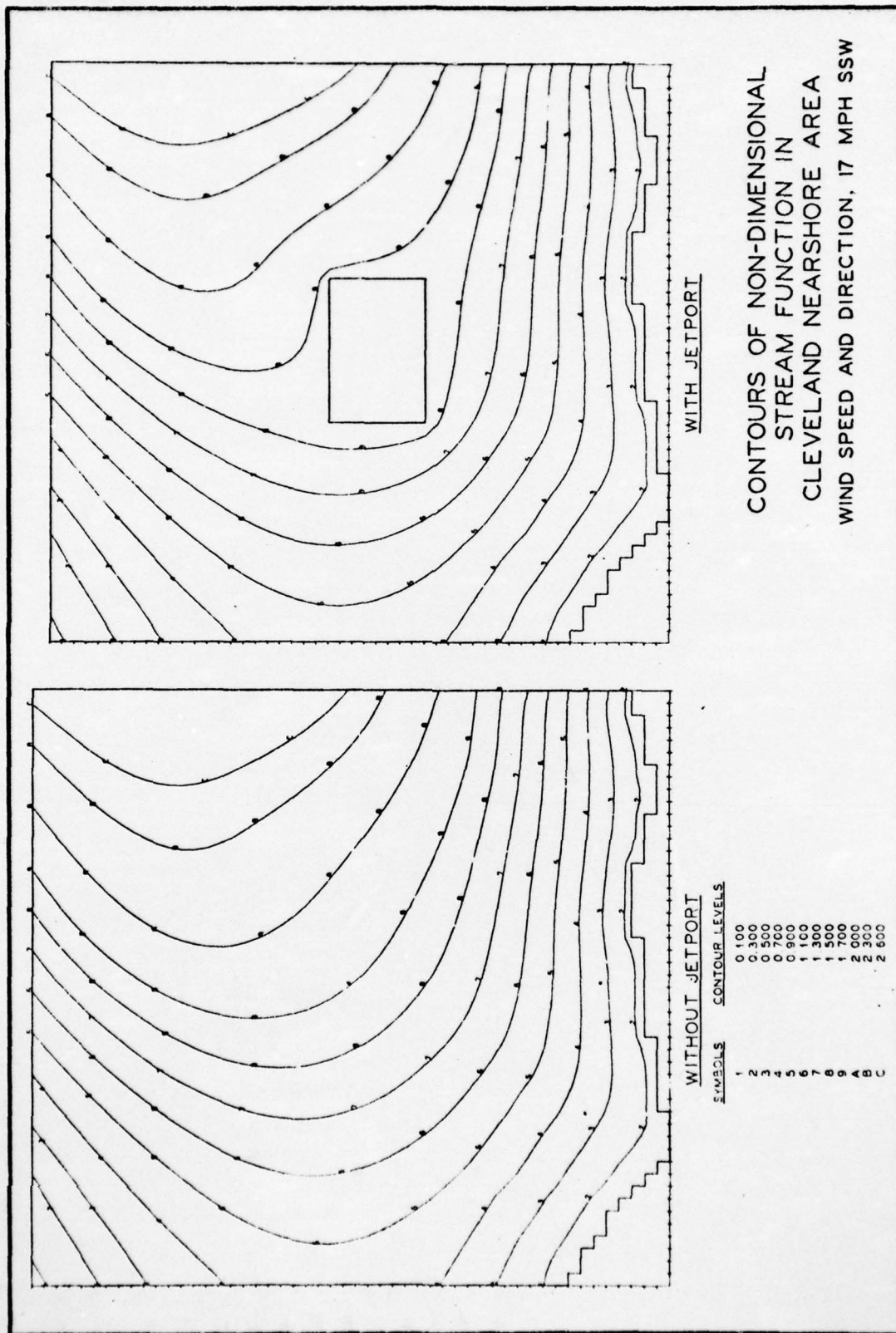


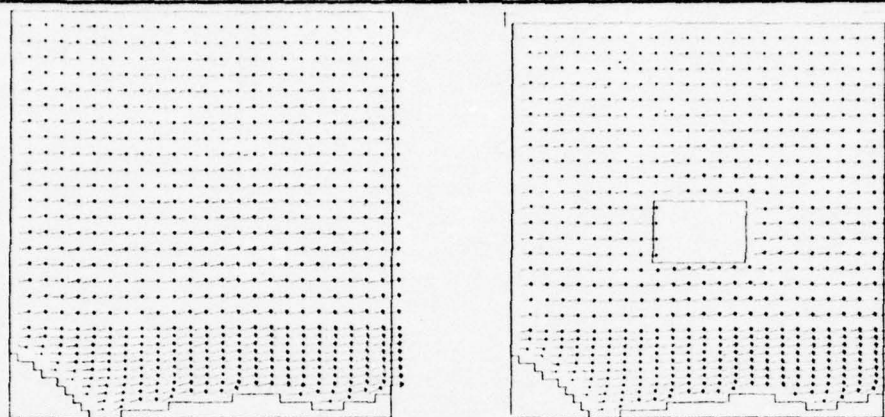
40-FT DEPTH



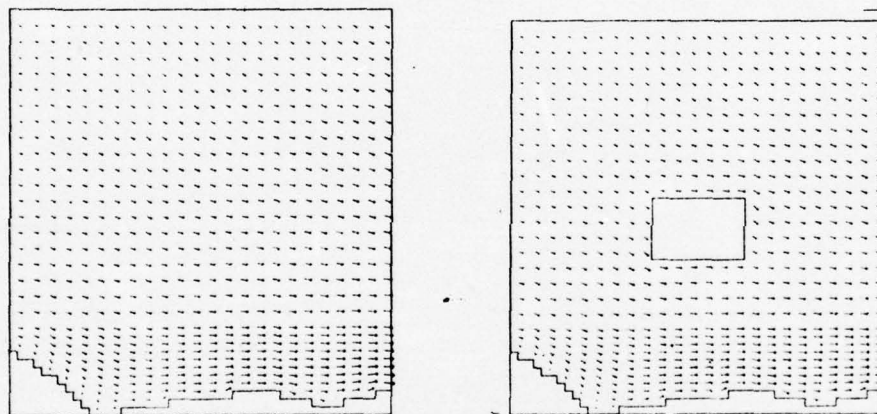
60-FT DEPTH

VERTICAL VELOCITIES AT
10-, 20-, 40-, AND 60-FT DEPTHS
WIND SPEED AND DIRECTION, 17 MPH SSW

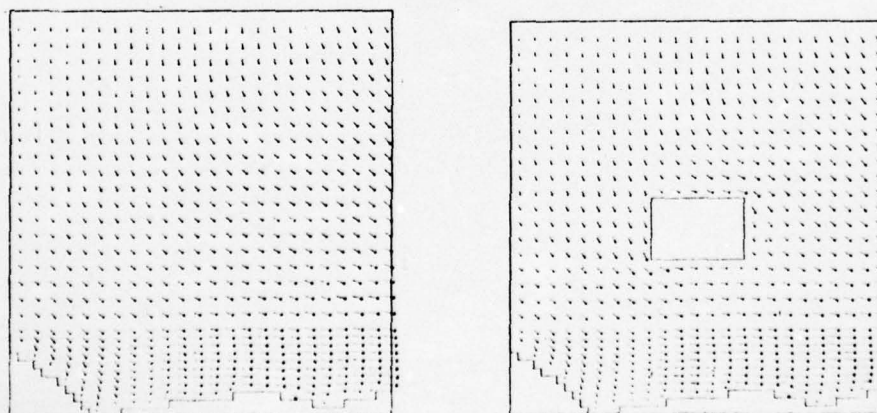




0-FT DEPTH
1 FT/SEC = (—)



10-FT DEPTH
1 FT/SEC = (—)

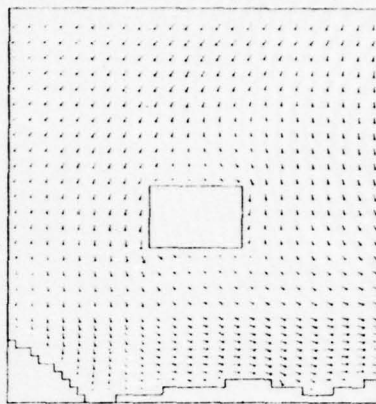
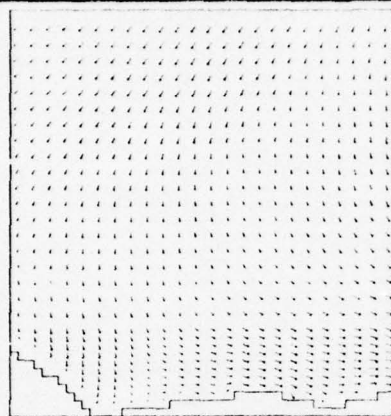


WITHOUT JETPORT

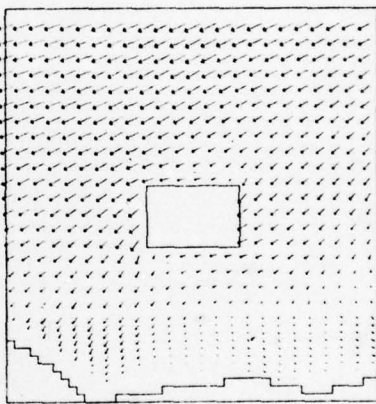
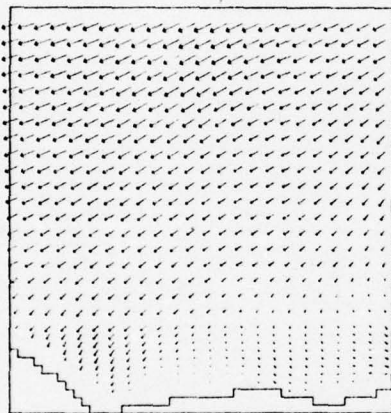
15-FT DEPTH
1 FT/SEC = (—)

WITH JETPORT

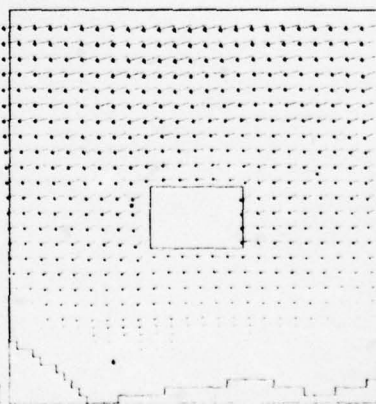
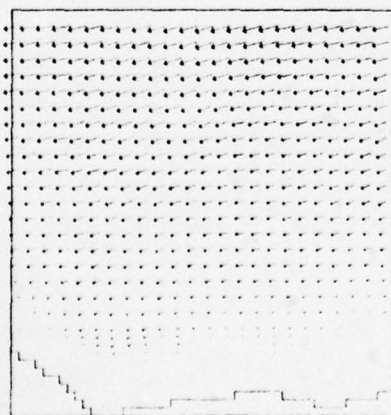
NEARSHORE HORIZONTAL VELOCITIES
AT 0-, 10-, AND 15-FT DEPTHS
WIND SPEED AND DIRECTION, 17 MPH SSW



20-FT DEPTH
1 FT/SEC = (—→)



30-FT DEPTH
1 FT/SEC = (—→)



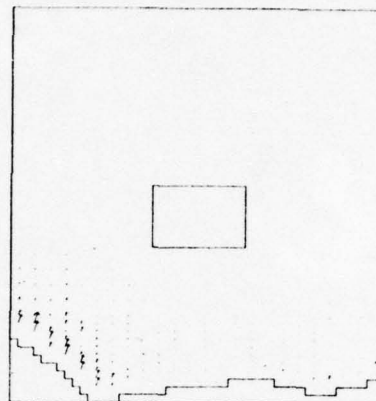
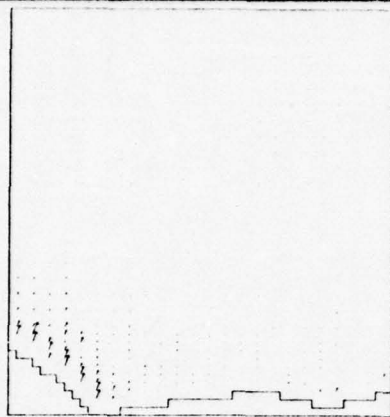
WITHOUT JETPORT

40-FT DEPTH
1 FT/SEC = (—→)

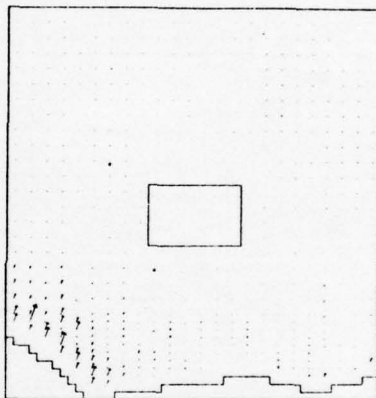
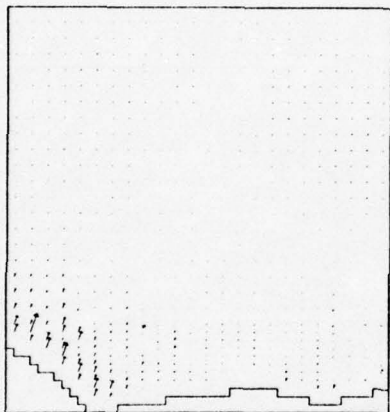
WITH JETPORT

NEARSHORE HORIZONTAL VELOCITIES AT 20-, 30-, AND 40-FT DEPTHS

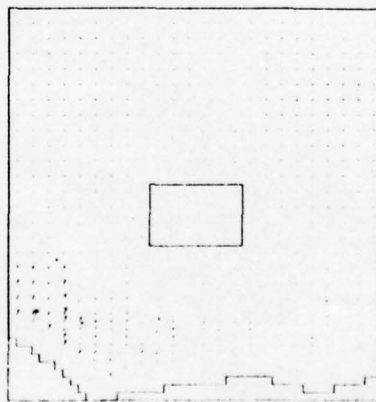
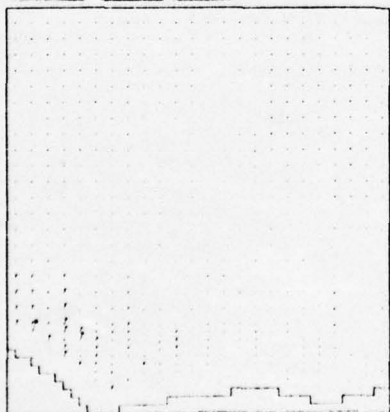
WIND SPEED AND DIRECTION, 17 MPH SSW



10-FT DEPTH
1 FT/SEC = (—) X 500



20-FT DEPTH
1 FT/SEC = (—) X 500

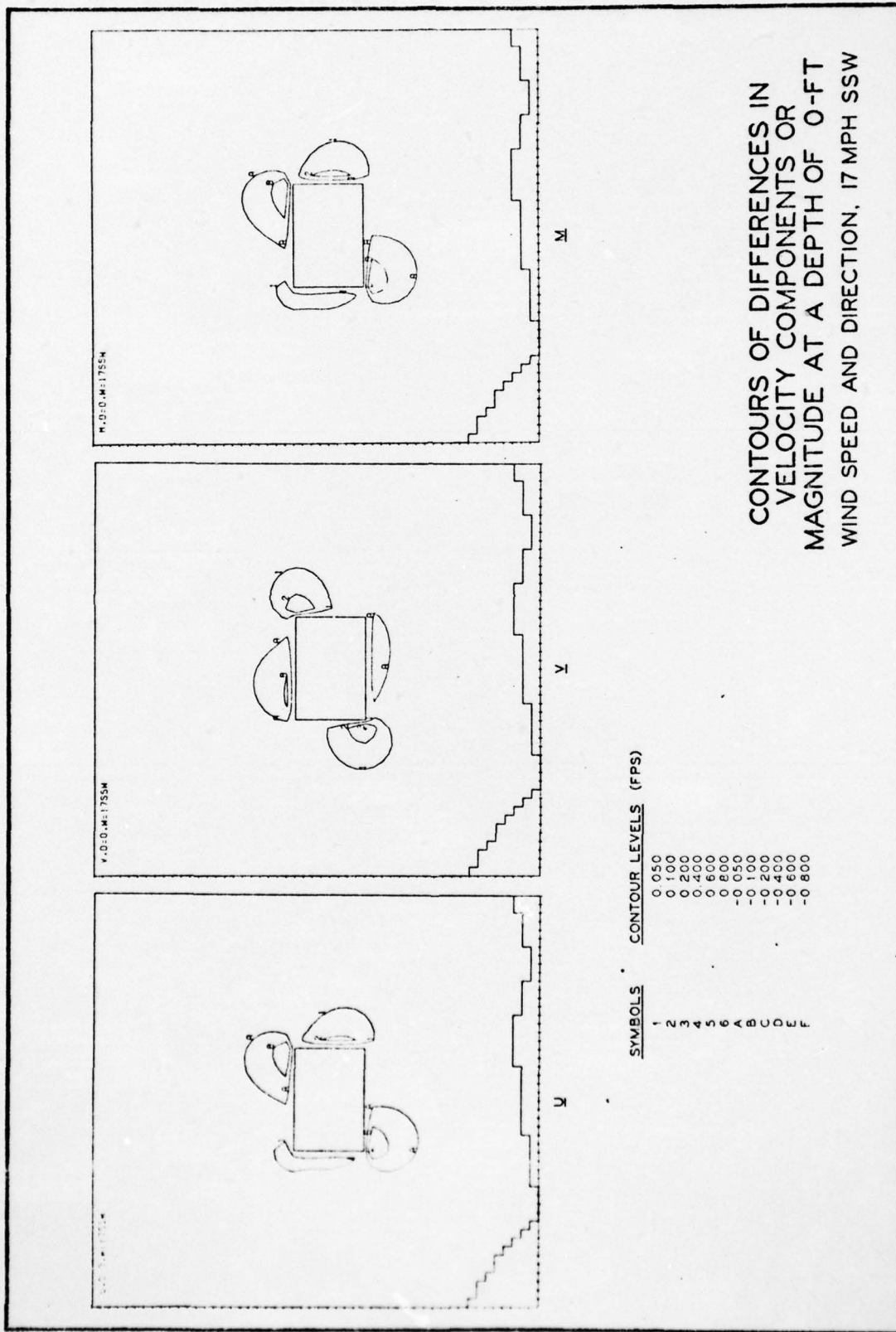


WITHOUT JETPORT

30-FT DEPTH
1 FT/SEC = (—) X 500

WITH JETPORT

NEARSHORE VERTICAL VELOCITIES
AT 10-, 20-, AND 30-FT DEPTHS
WIND SPEED AND DIRECTION, 17 MPH SSW



SYMBOLS	CONTOUR LEVELS (FPS)
1	0.050
2	0.100
3	0.200
4	0.400
5	0.600
6	0.800
A	-0.050
B	-0.100
C	-0.200
D	-0.400
E	-0.600
F	-0.800

CONTOURS OF DIFFERENCES IN
VELOCITY COMPONENTS OR
MAGNITUDE AT A DEPTH OF 0-FT
WIND SPEED AND DIRECTION, 17 MPH SSW

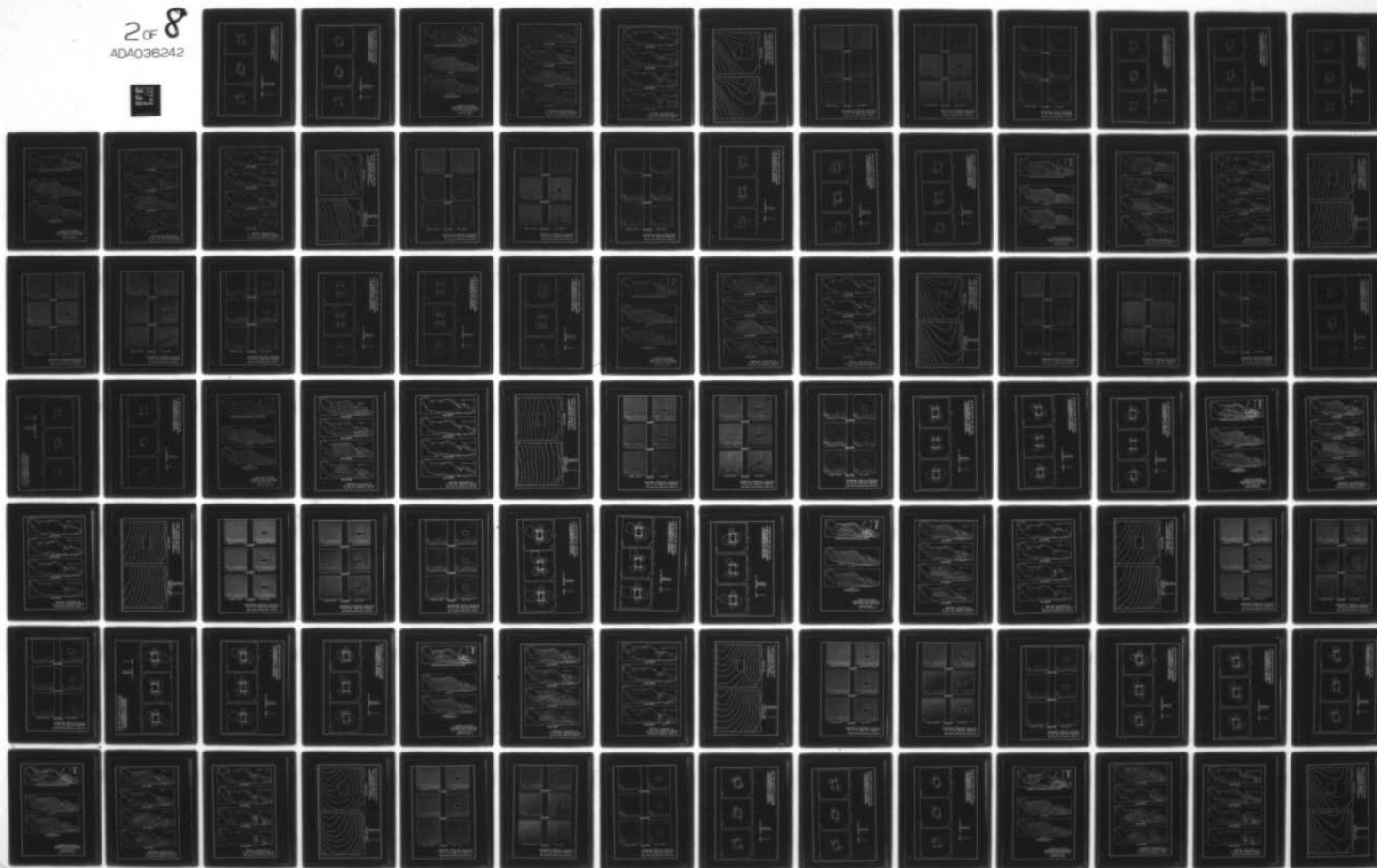
AD-A036 242

ARMY ENGINEER WATERWAYS EXPERIMENT STATION, VICKSBURG MISS F/G 1/5
LAKE ERIE INTERNATIONAL JETPORT MODEL FEASIBILITY INVESTIGATION--ETC(U)
FEB 76 D L DURHAM, H L BUTLER
WES-MP-H-76-3-7

UNCLASSIFIED

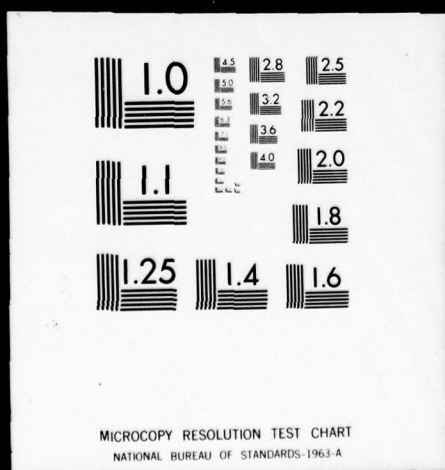
NL

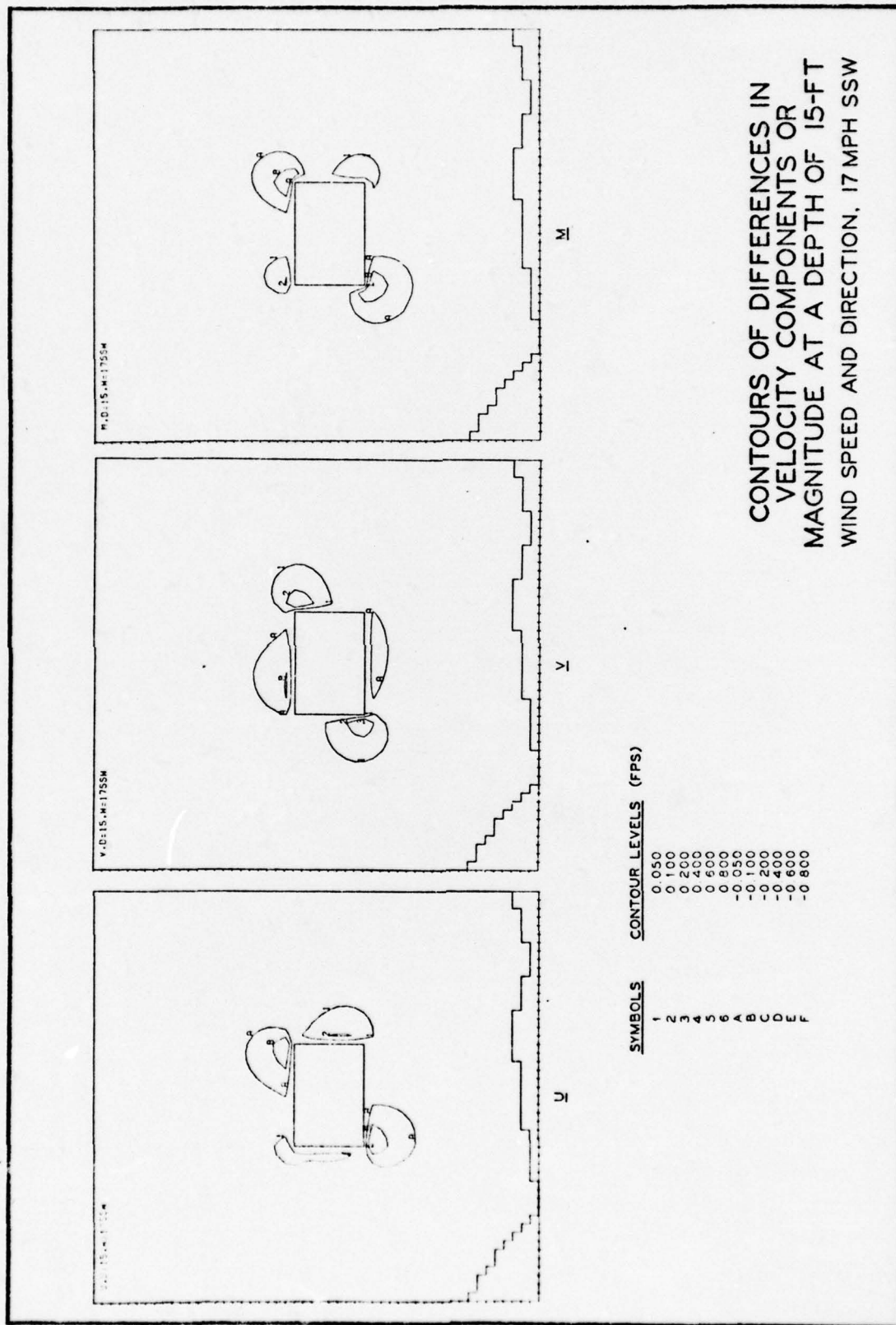
2 of 8
ADA036242

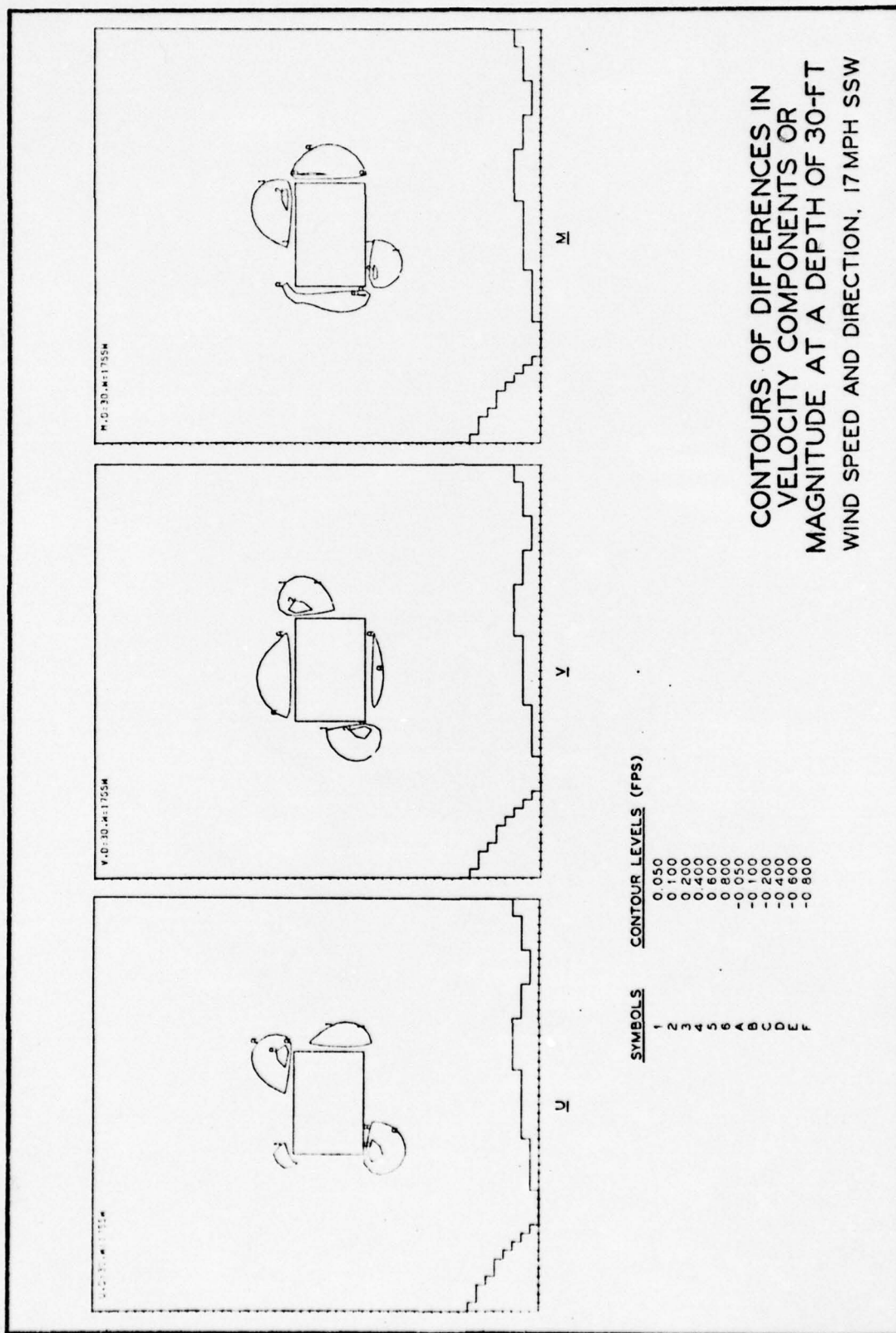


2 OF 8

ADA036242



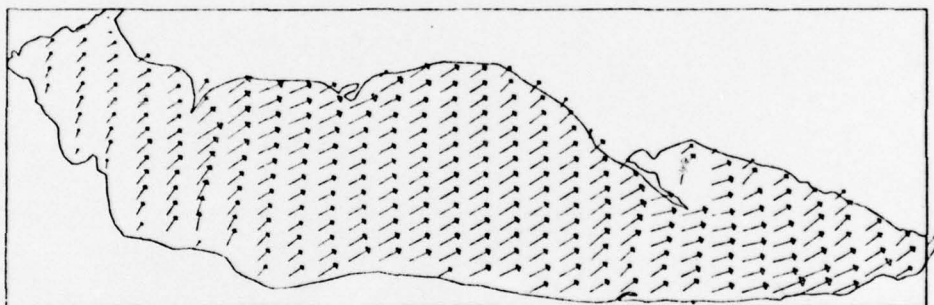




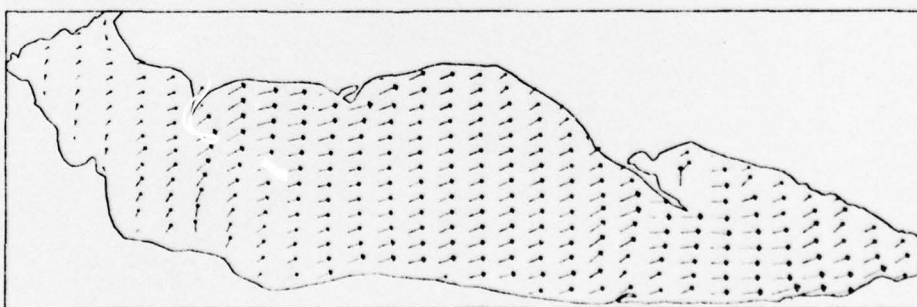
CONTOURS OF DIFFERENCES IN
VELOCITY COMPONENTS OR
MAGNITUDE AT A DEPTH OF 30-FT
WIND SPEED AND DIRECTION, 17 MPH SSW



CONTOURS OF NON-DIMENSIONAL STREAM FUNCTION



0-FT DEPTH



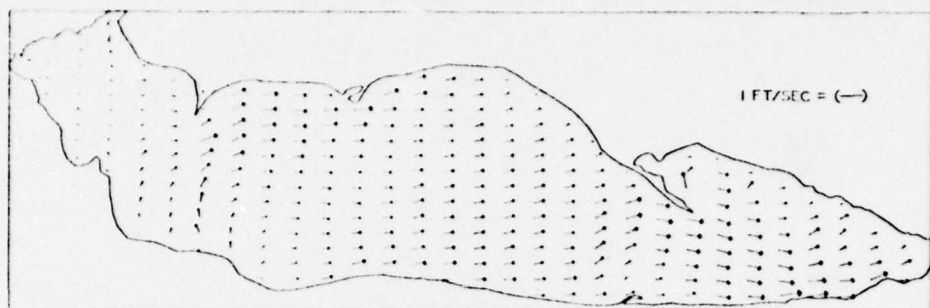
5-FT DEPTH

HORIZONTAL VELOCITIES

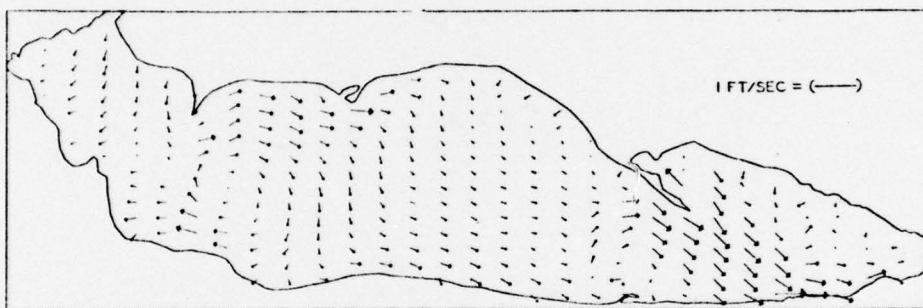
1 FT/SEC = (—)

STREAM FUNCTION
CONTOURS AND HORIZONTAL
VELOCITIES FOR LAKE ERIE

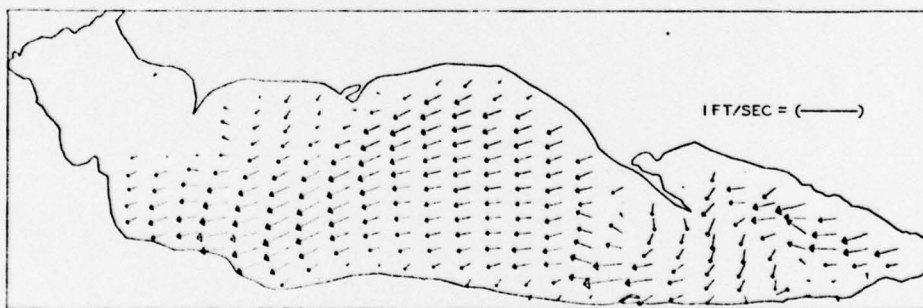
WIND SPEED AND
DIRECTION, 17 MPH S



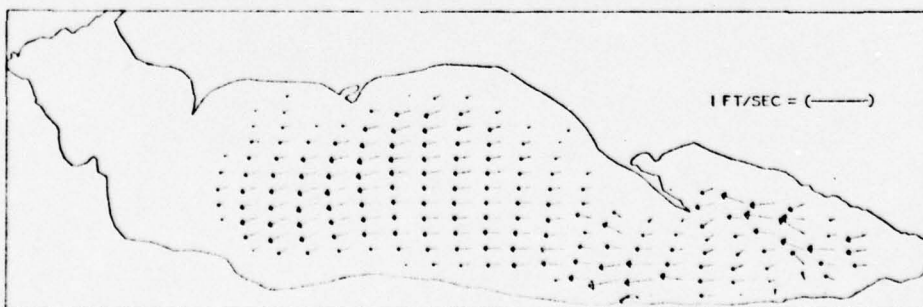
10-FT DEPTH



20-FT DEPTH

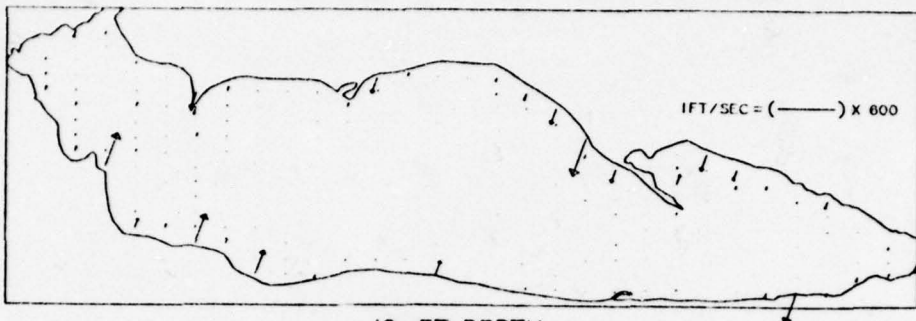


40-FT DEPTH

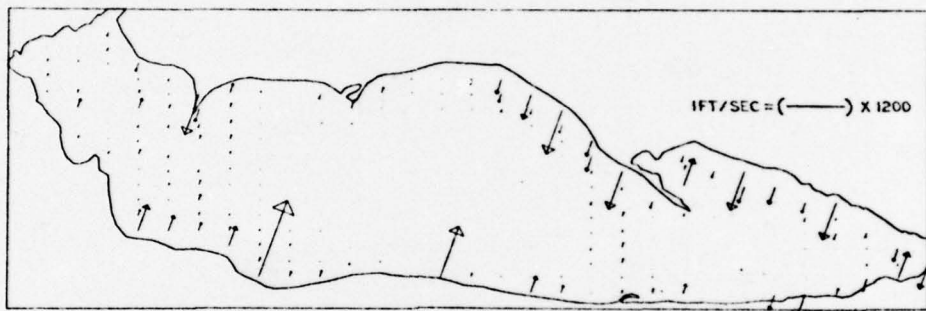


60-FT DEPTH

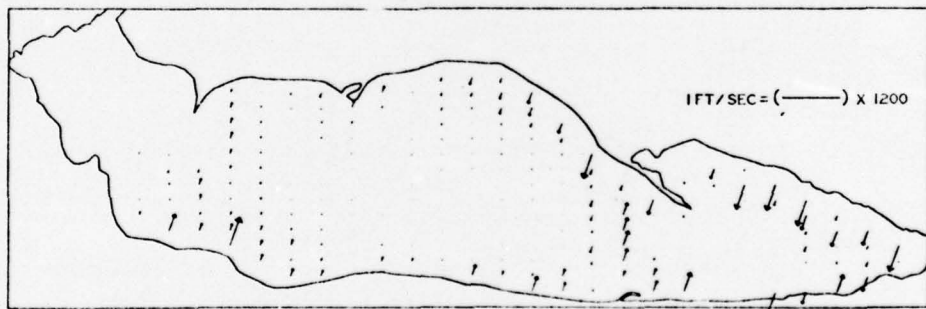
HORIZONTAL VELOCITIES AT
10-, 20-, 40-, AND 60-FT DEPTHS
WIND SPEED AND DIRECTION, 17 MPH S



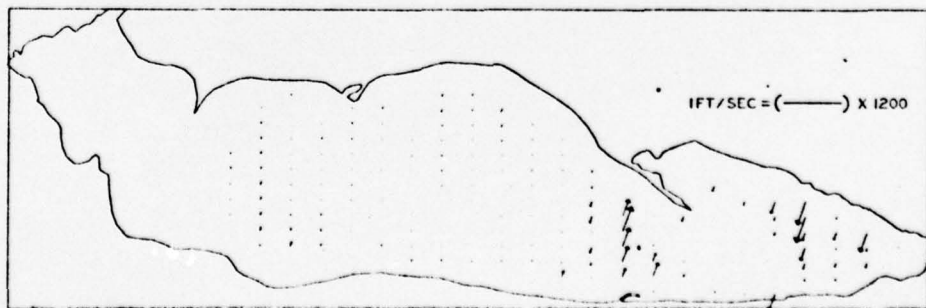
10-FT DEPTH



20-FT DEPTH

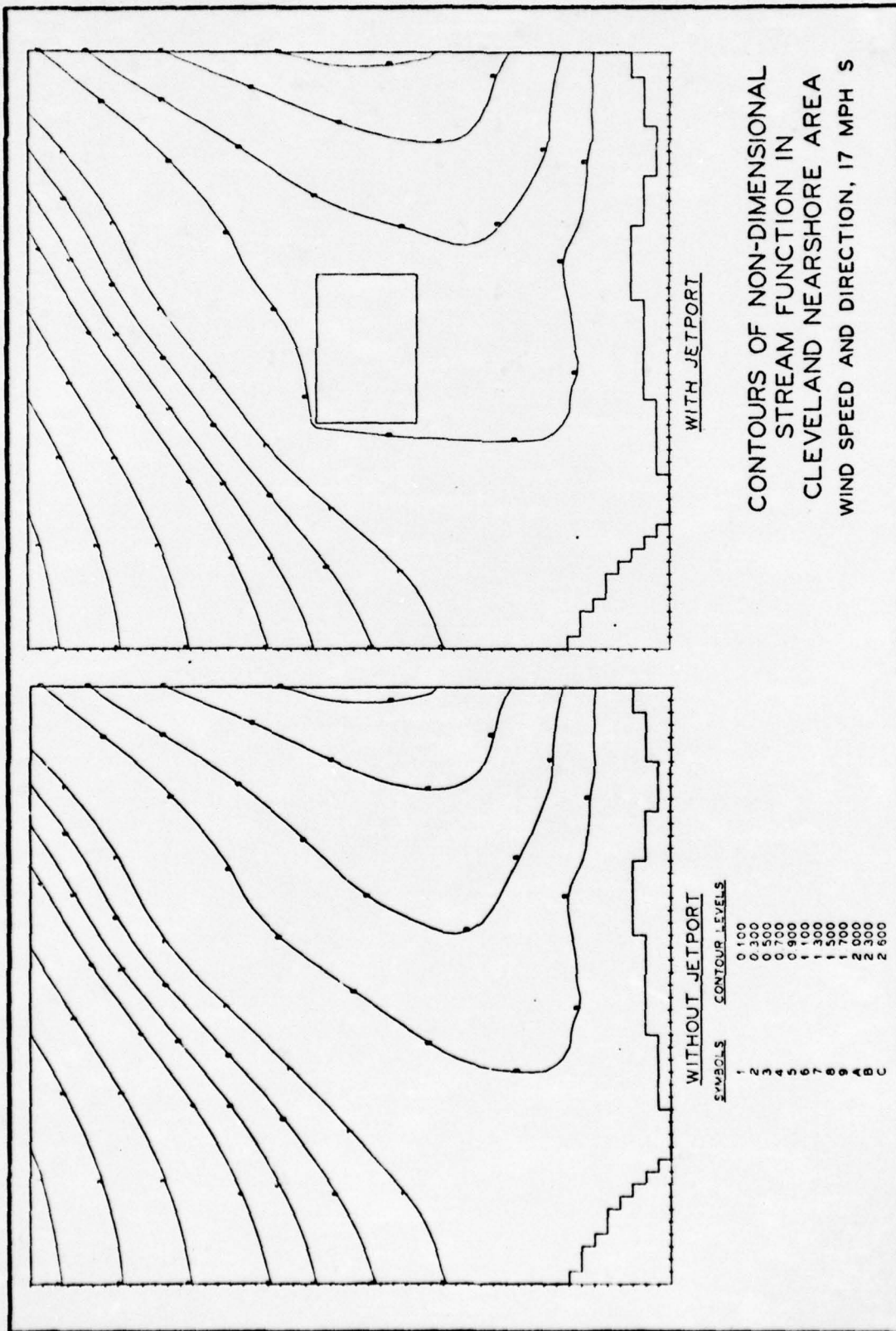


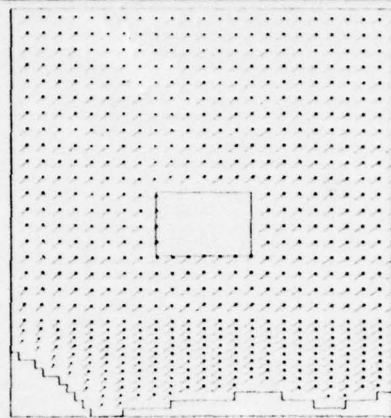
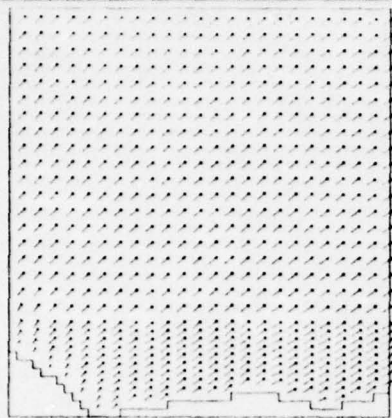
40-FT DEPTH



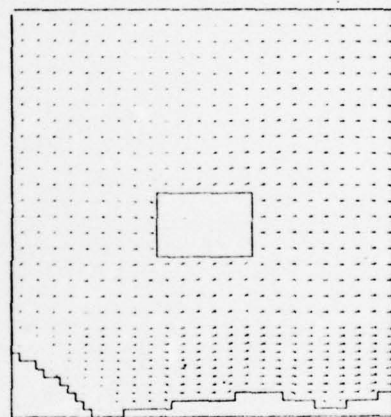
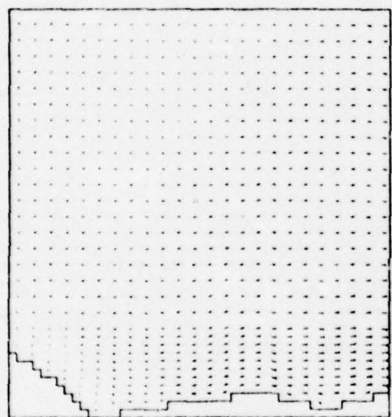
60-FT DEPTH

VERTICAL VELOCITIES AT
10-, 20-, 40-, AND 60-FT DEPTHS
WIND SPEED AND DIRECTION, 17 MPH S

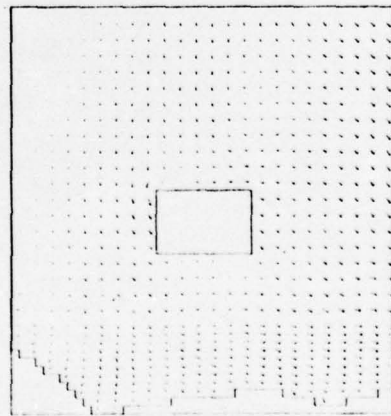
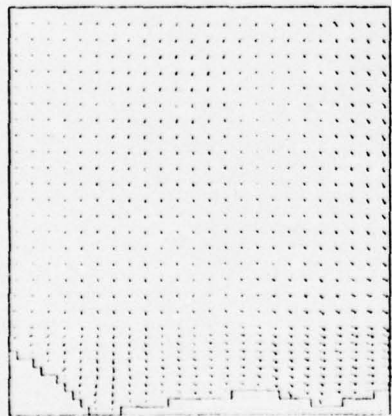




0-FT DEPTH
1 FT/SEC = (→)



10-FT DEPTH
1 FT/SEC = (→)

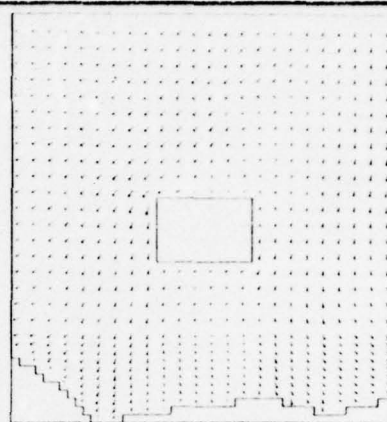
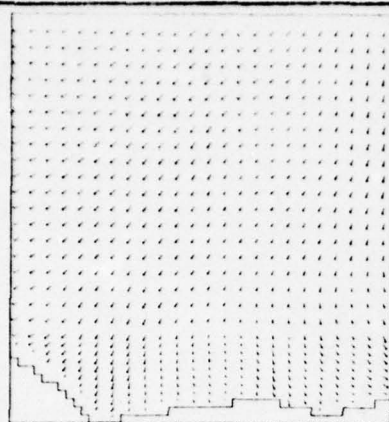


WITHOUT JETPORT

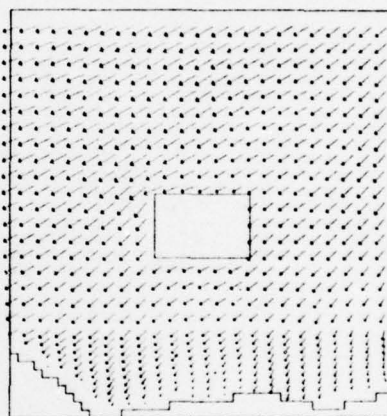
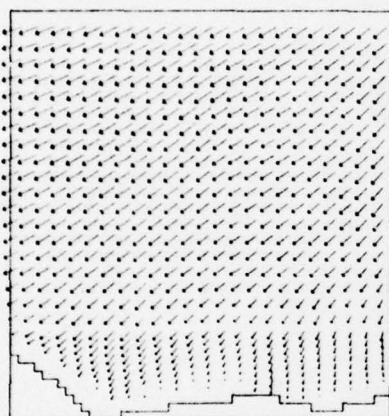
15-FT DEPTH
1 FT/SEC = (→)

WITH JETPORT

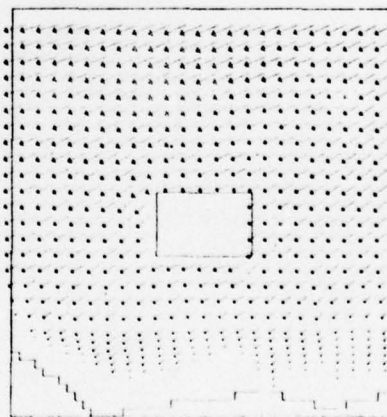
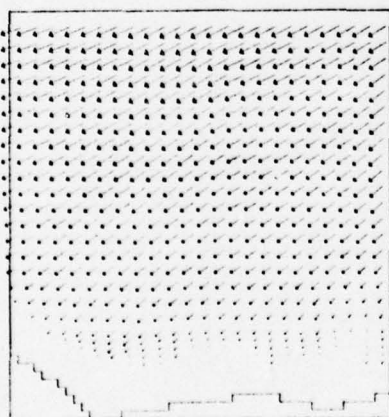
NEARSHORE HORIZONTAL VELOCITIES
AT 0-, 10-, AND 15-FT DEPTHS
WIND SPEED AND DIRECTION, 17 MPH S



20-FT DEPTH
1 FT/SEC = (→)



30-FT DEPTH
1 FT/SEC = (→)

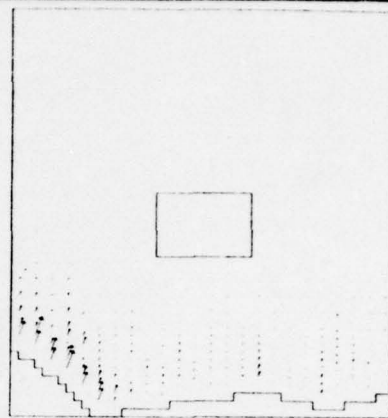
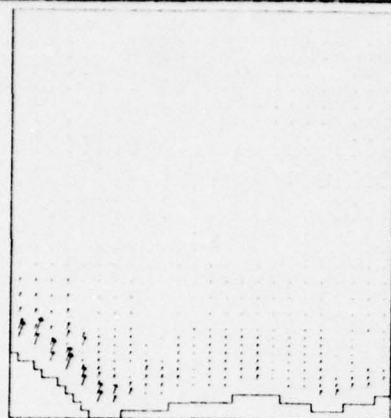


WITHOUT JETPORT

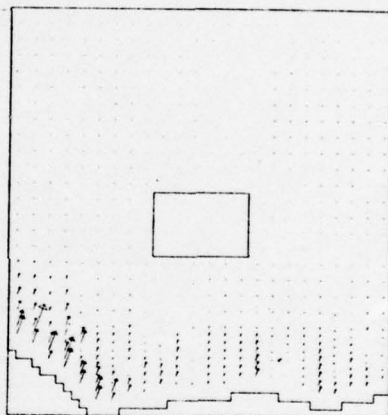
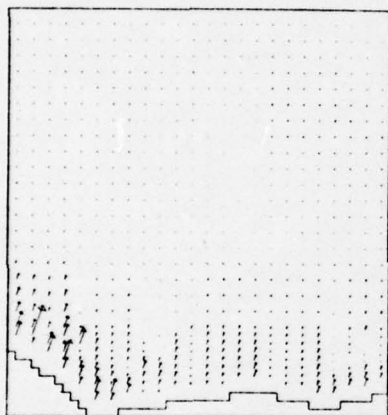
40-FT DEPTH
1 FT/SEC = (→)

WITH JETPORT

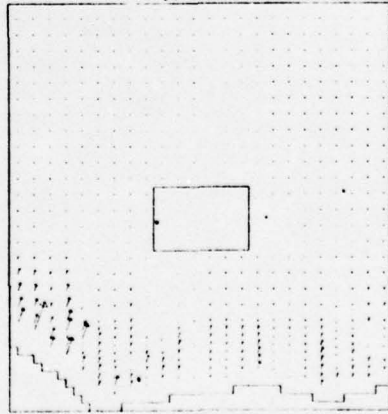
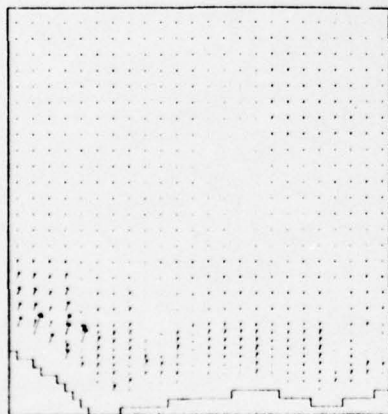
NEARSHORE HORIZONTAL VELOCITIES
AT 20-, 30-, AND 40-FT DEPTHS
WIND SPEED AND DIRECTION, 17 MPH S



10-FT DEPTH
1 FT/SEC = (→) X 500



20-FT DEPTH
1 FT/SEC = (→) X 500

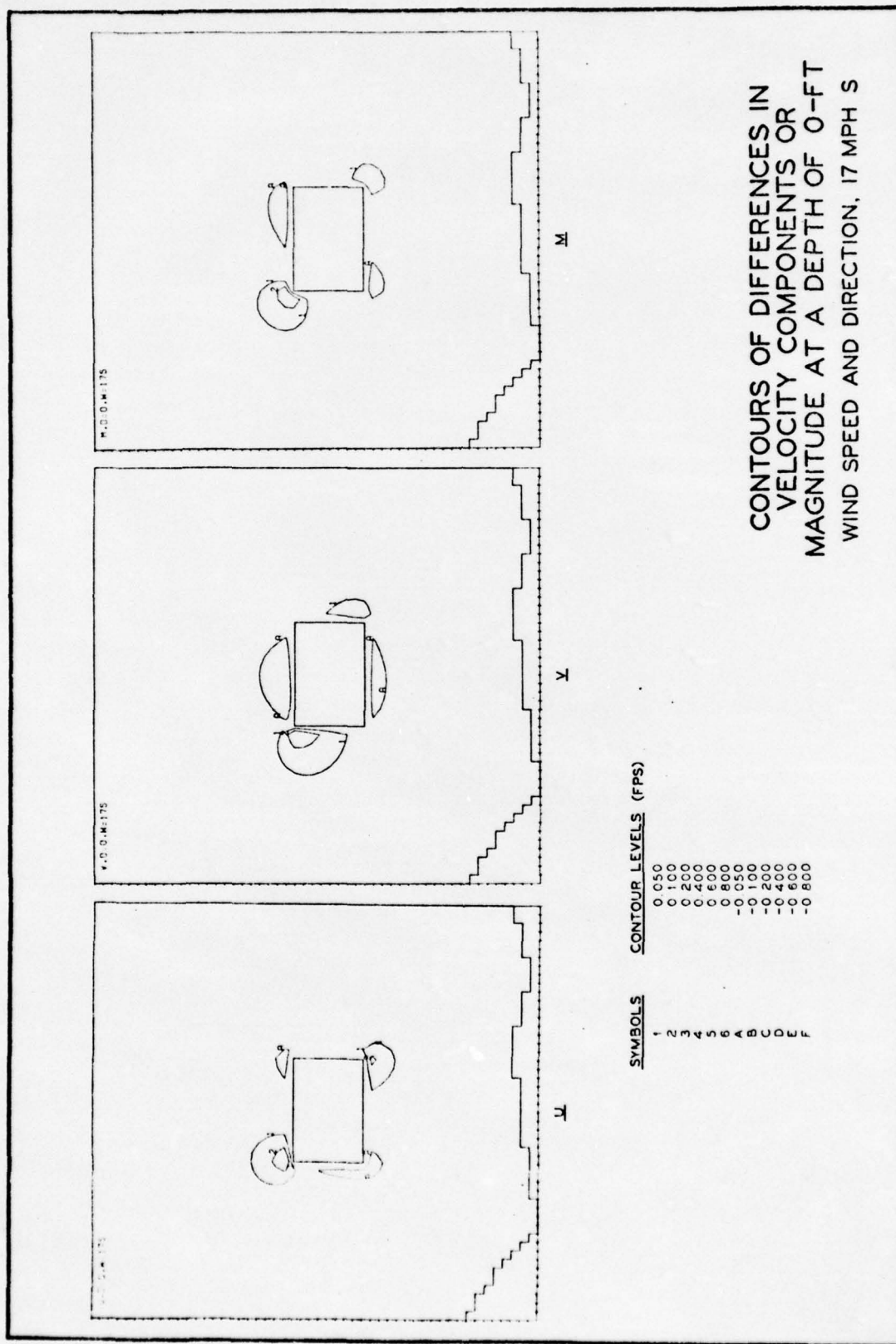


WITHOUT JETPORT

30-FT DEPTH
1 FT/SEC = (→) X 500

WITH JETPORT

NEARSHORE VERTICAL VELOCITIES
AT 10-, 20-, AND 30-FT DEPTHS
WIND SPEED AND DIRECTION, 17 MPH S

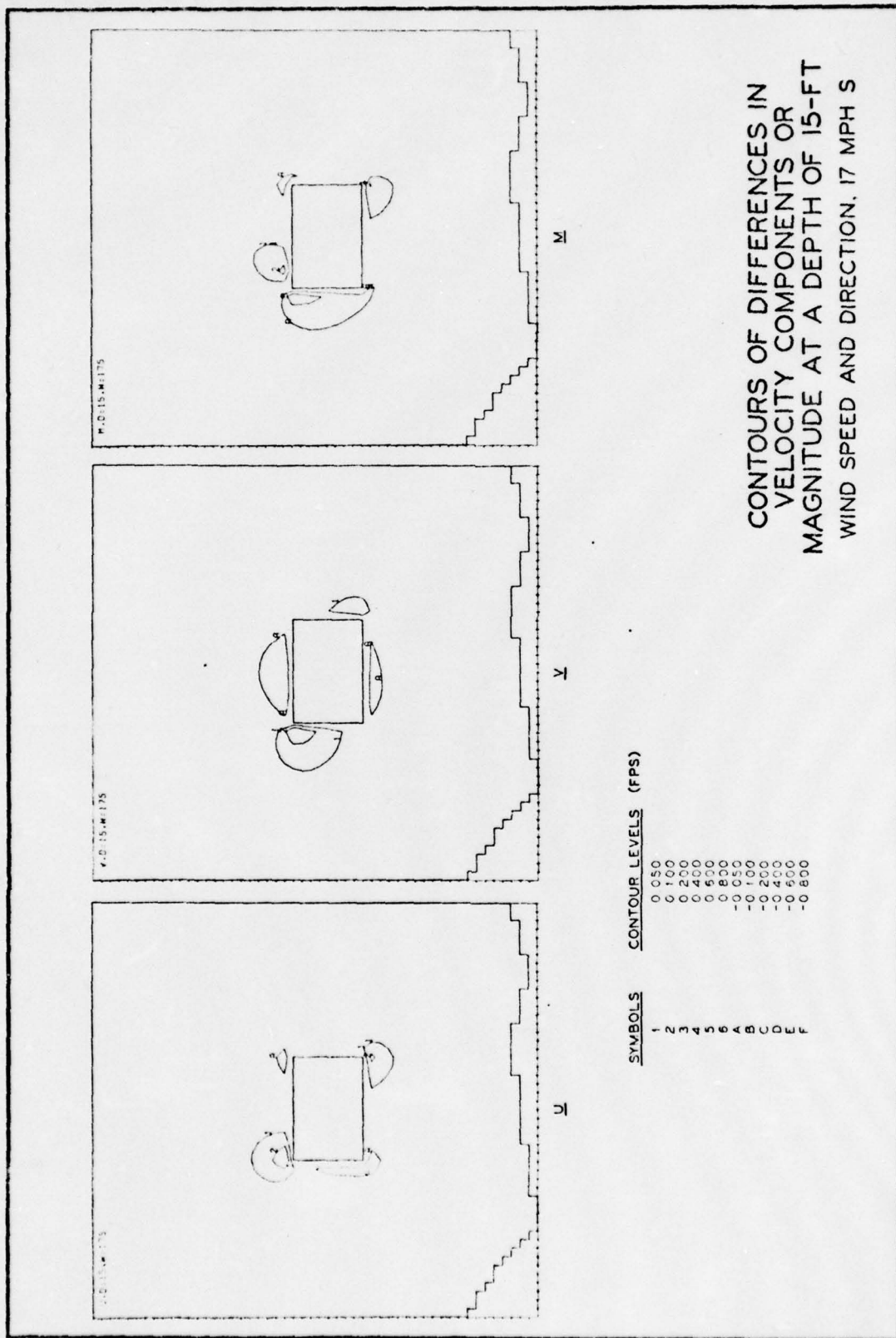


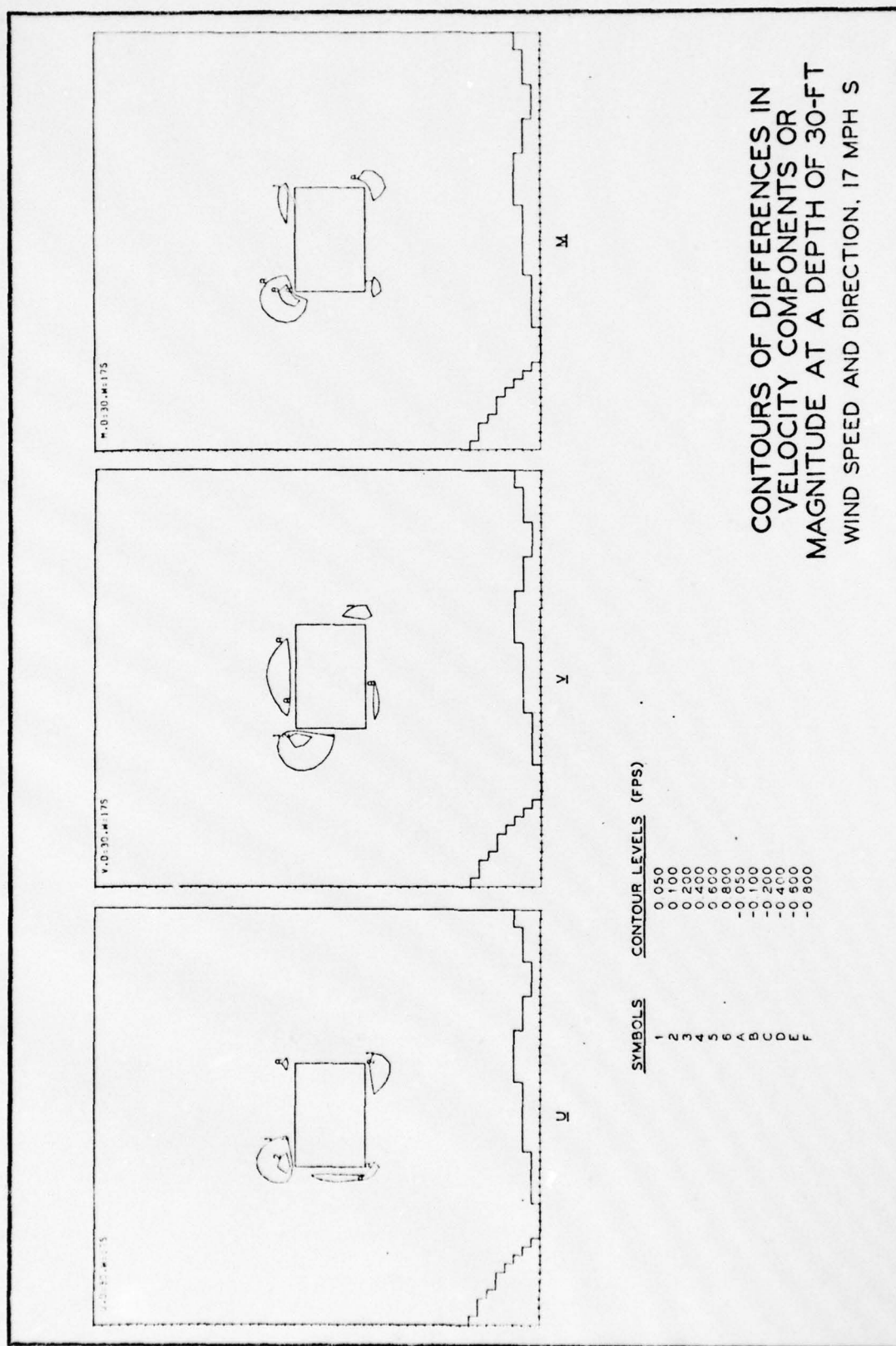
SYMBOLS CONTOUR LEVELS (FPS)

1 2 3 4 5 6 A B C D E F

0.050
0.100
0.200
0.400
0.600
0.800
-0.050
-0.100
-0.200
-0.400
-0.600
-0.800

CONTOURS OF DIFFERENCES IN
VELOCITY COMPONENTS OR
MAGNITUDE AT A DEPTH OF 0-FT
WIND SPEED AND DIRECTION, 17 MPH S

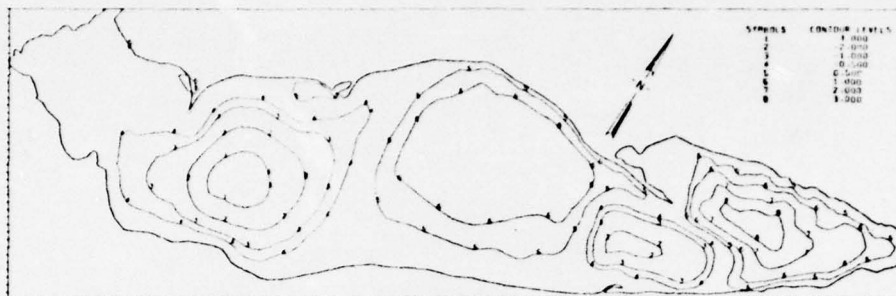




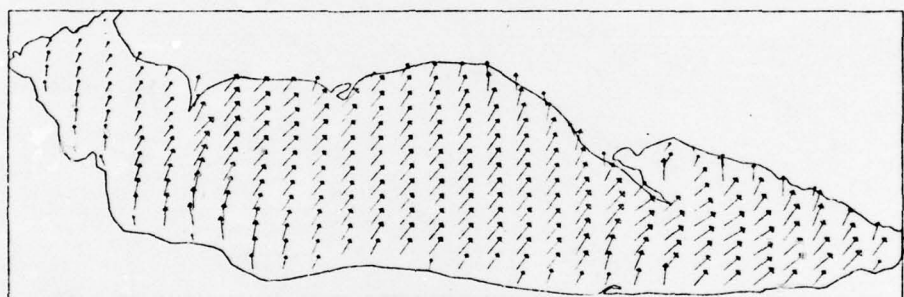
SYMBOLS CONTOUR LEVELS (FPS)

1	0 050
2	0 100
3	0 200
4	0 400
5	0 600
6	0 800
A	-0 050
B	-0 100
C	-0 200
D	-0 400
E	-0 600
F	-0 800

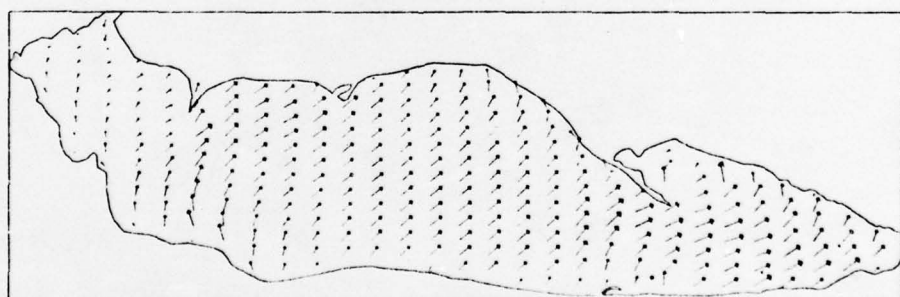
CONTOURS OF DIFFERENCES IN
VELOCITY COMPONENTS OR
MAGNITUDE AT A DEPTH OF 30-FT
WIND SPEED AND DIRECTION, 17 MPH S



CONTOURS OF NON-DIMENSIONAL STREAM FUNCTION



0-FT. DEPTH



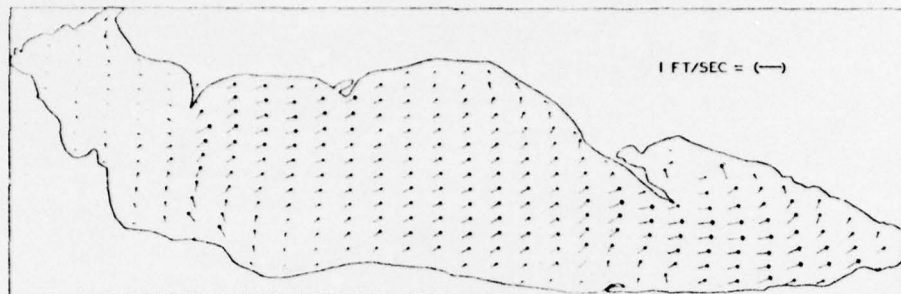
5-FT. DEPTH

HORIZONTAL VELOCITIES

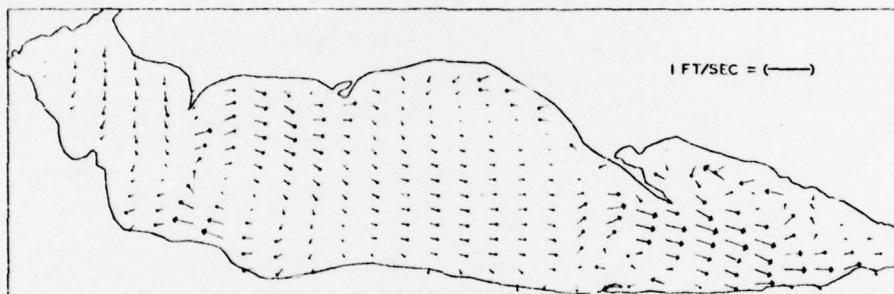
1 FT/SEC = (—)

STREAM FUNCTION
CONTOURS AND HORIZONTAL
VELOCITIES FOR LAKE ERIE

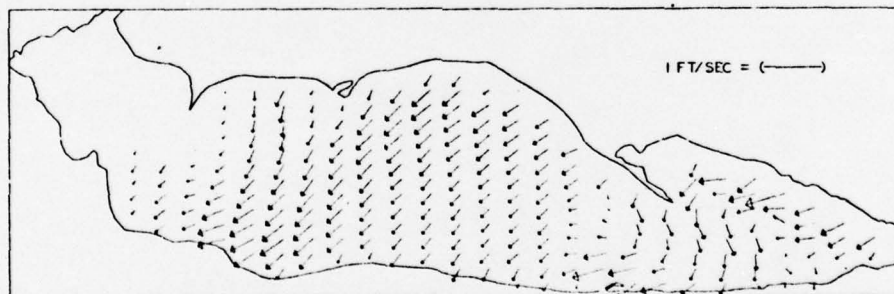
WIND SPEED AND
DIRECTION, 17 MPH SSE



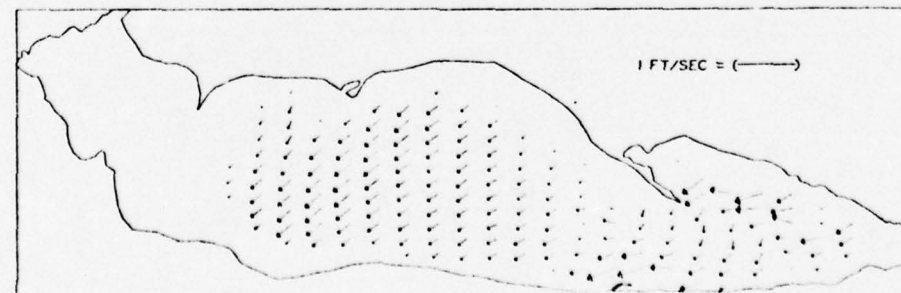
10-FT DEPTH



20-FT DEPTH

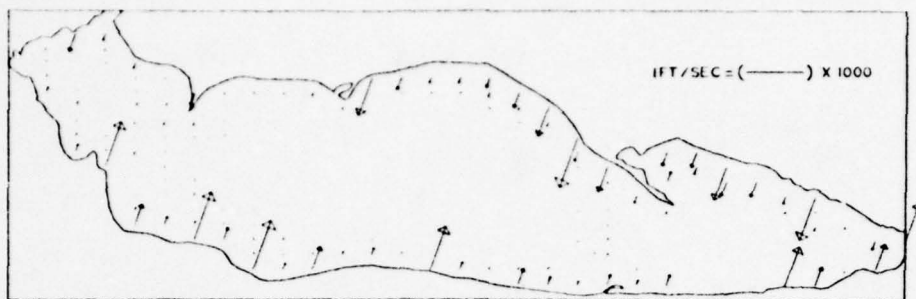


40-FT DEPTH

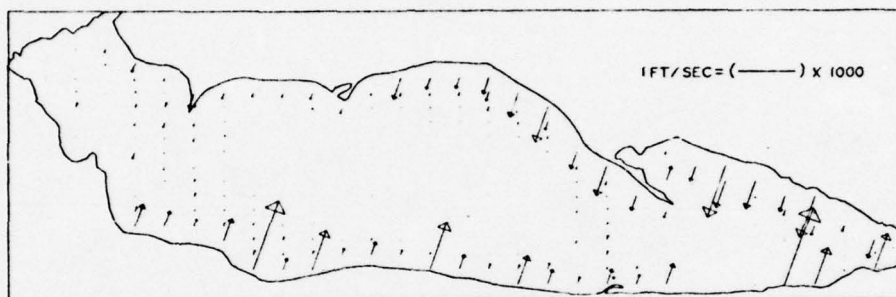


60-FT DEPTH

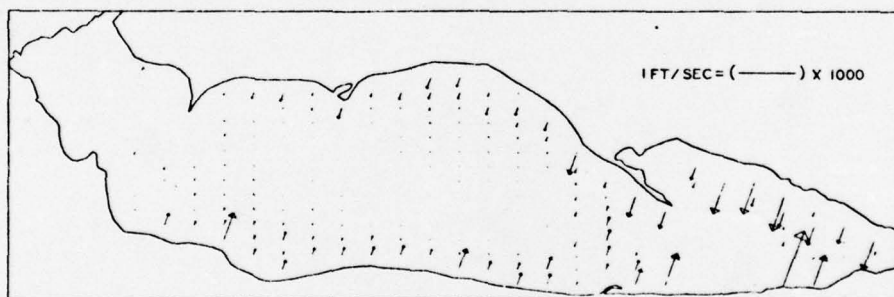
HORIZONTAL VELOCITIES AT
10-, 20-, 40-, AND 60-FT DEPTHS
WIND SPEED AND DIRECTION, 17MPH SSE



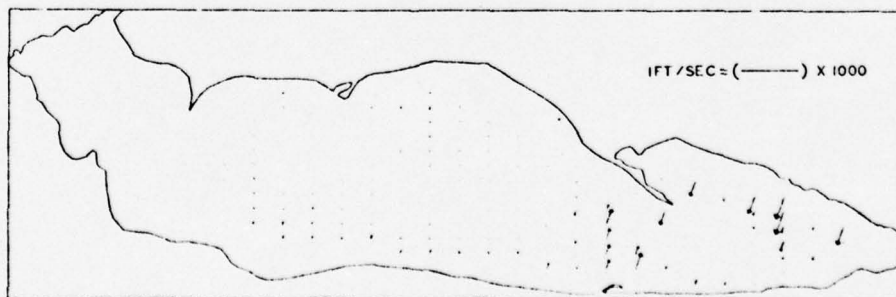
10-FT DEPTH



20-FT DEPTH

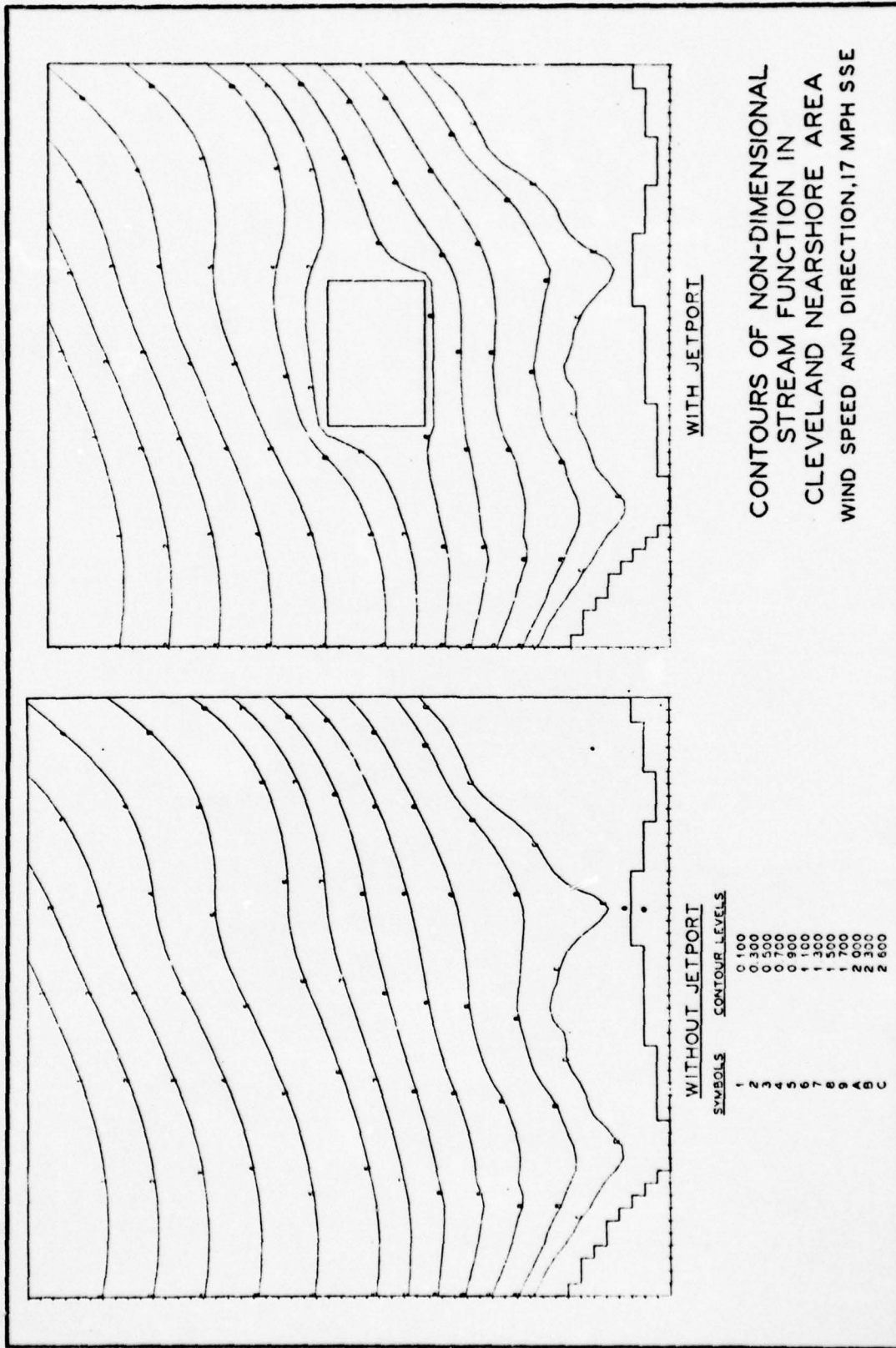


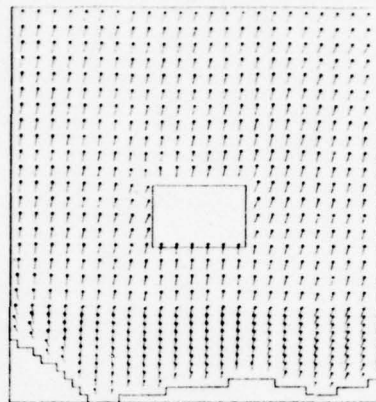
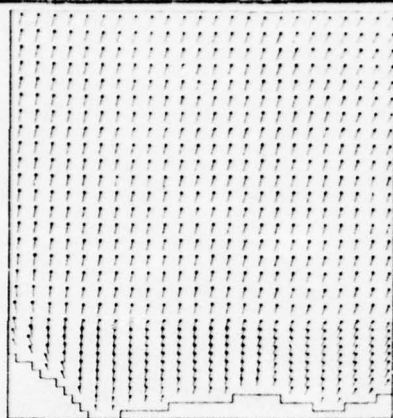
40-FT DEPTH



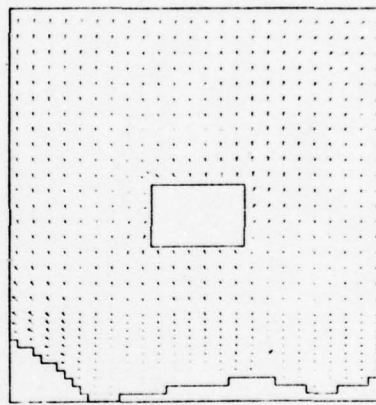
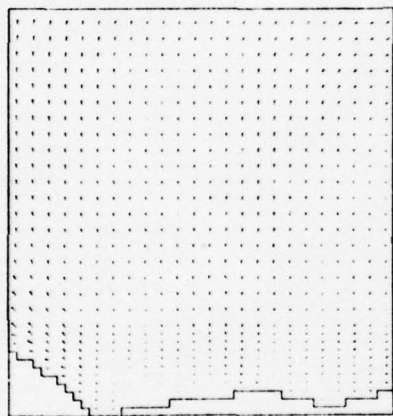
60-FT DEPTH

VERTICAL VELOCITIES AT
10-, 20-, 40-, AND 60-FT DEPTHS
WIND SPEED AND DIRECTION, 17 MPH SSE

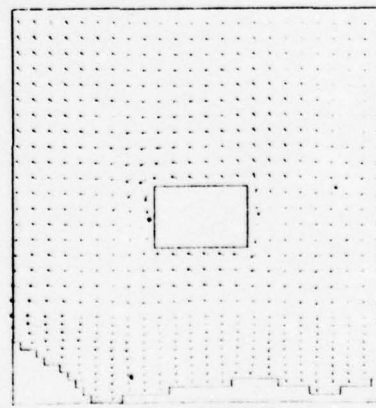
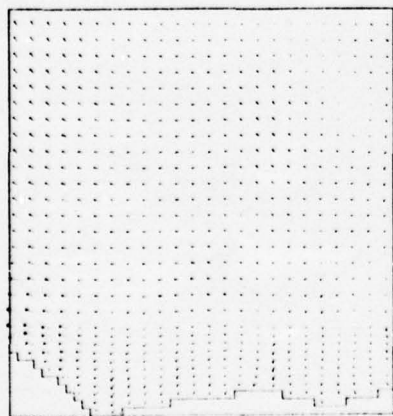




0-FT DEPTH
IFT/SEC = (—)



10-FT DEPTH
IFT/SEC = (—)

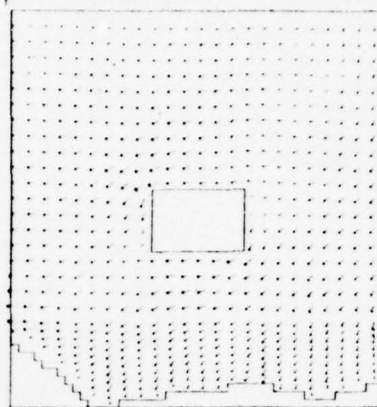
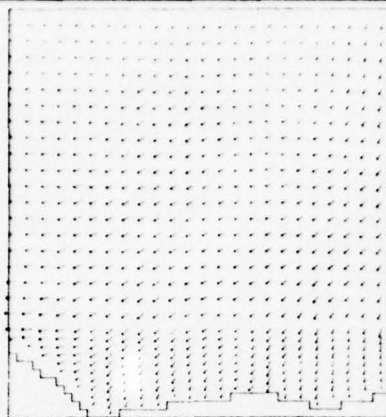


WITHOUT JETPORT

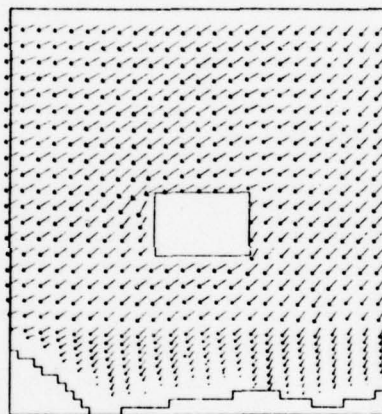
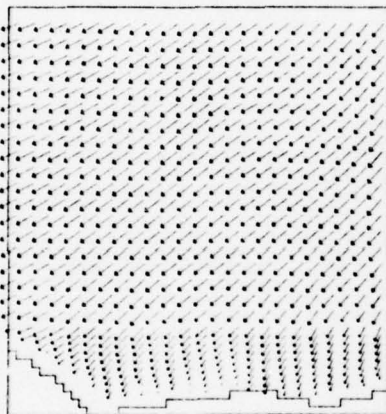
15-FT DEPTH
IFT/SEC = (—)

WITH JETPORT

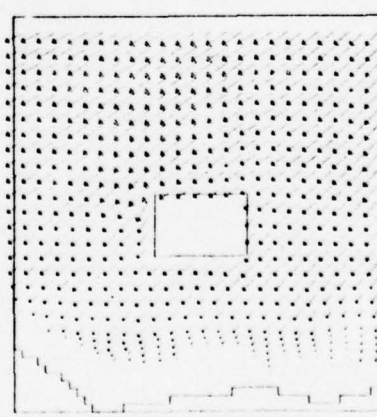
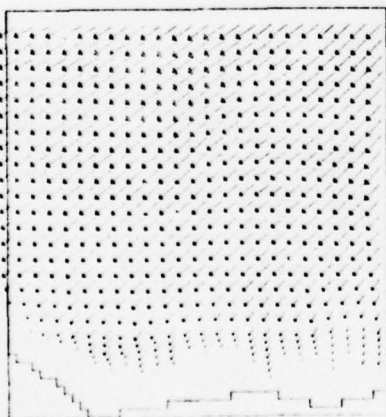
NEARSHORE HORIZONTAL VELOCITIES
AT 0-, 10-, AND 15-FT DEPTHS
WIND SPEED AND DIRECTION, 17 MPH SSE



20-FT DEPTH
1 FT/SEC = (—→)



30-FT DEPTH
1 FT/SEC = (—→)



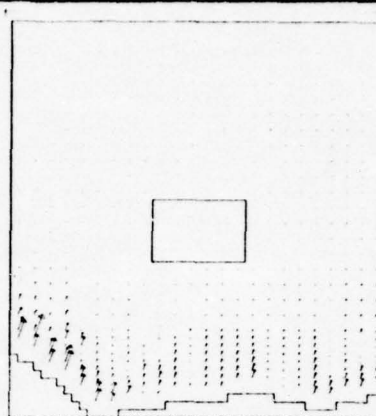
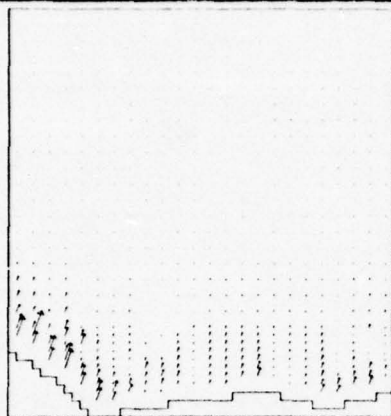
WITHOUT JETPORT

40-FT DEPTH
1 FT/SEC = (—→)

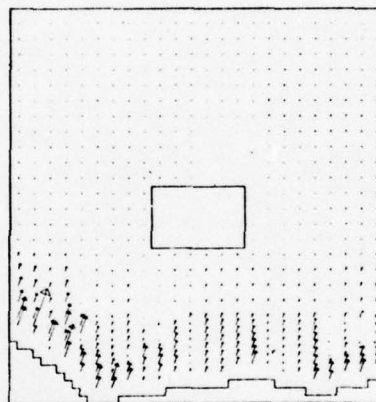
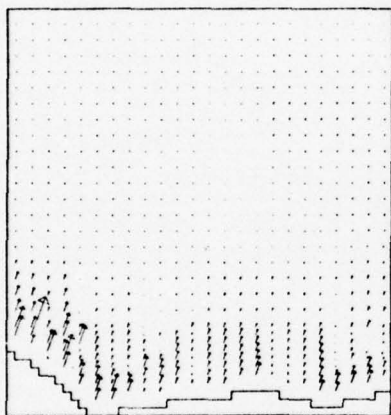
WITH JETPORT

NEARSHORE HORIZONTAL VELOCITIES AT 20-, 30-, AND 40-FT DEPTHS

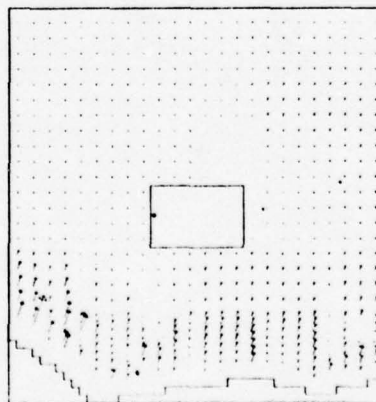
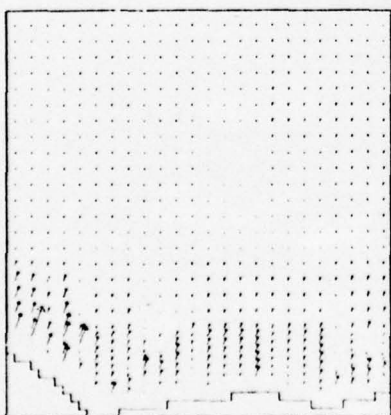
WIND SPEED AND DIRECTION, 17 MPH SSE



10-FT DEPTH
1 FT/SEC = (—) X 500



20-FT DEPTH
1 FT/SEC = (—) X 500

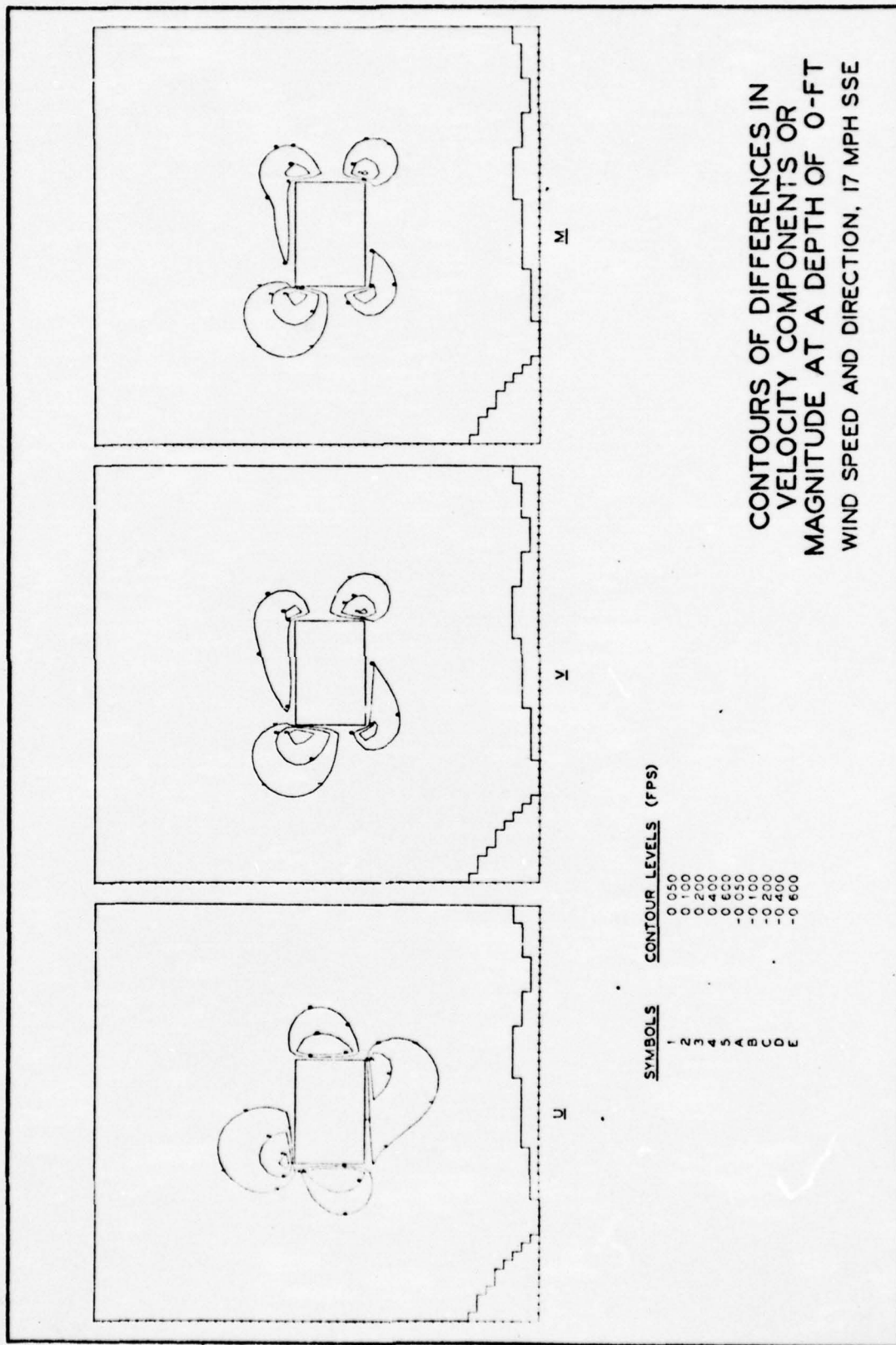


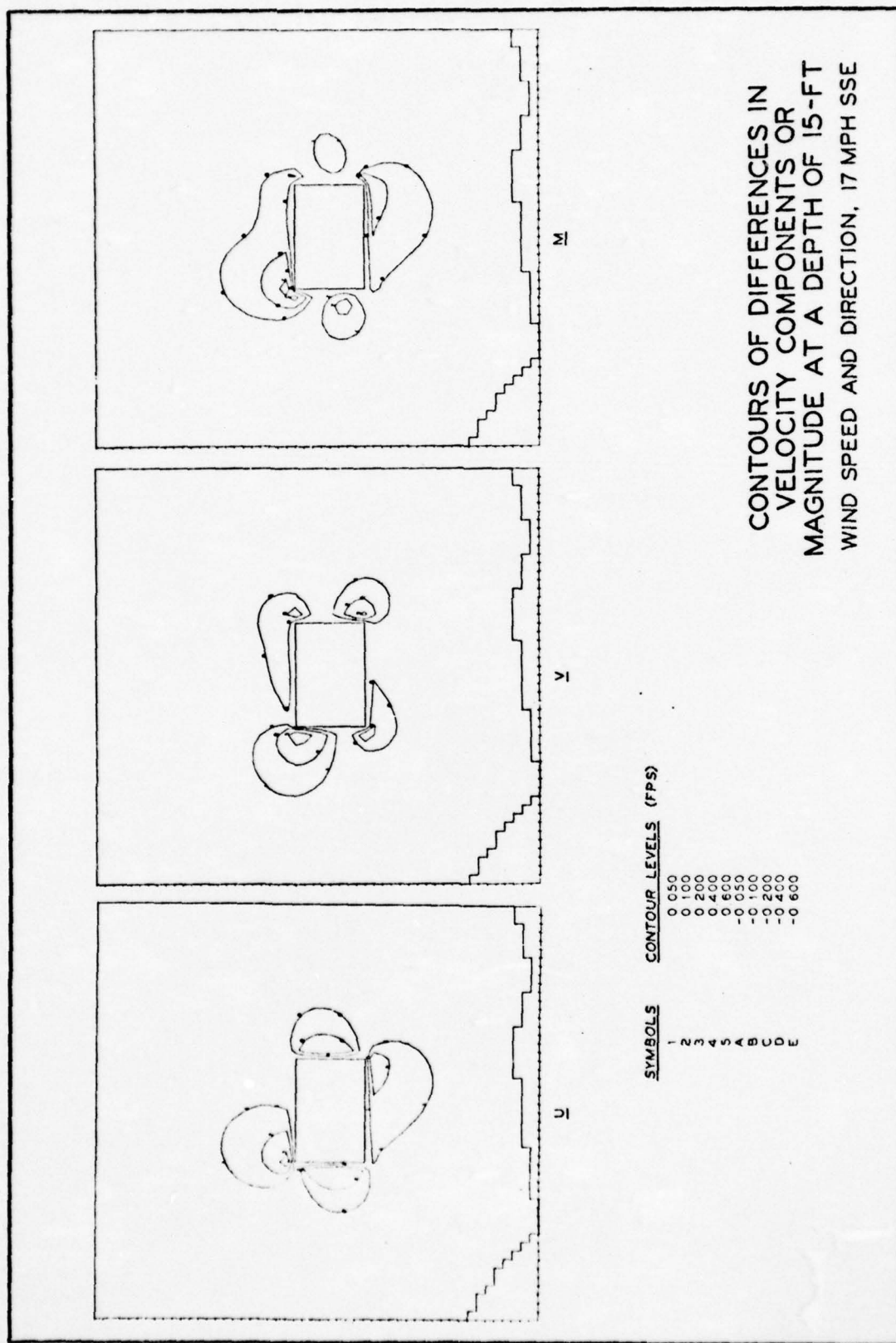
WITHOUT JETPORT

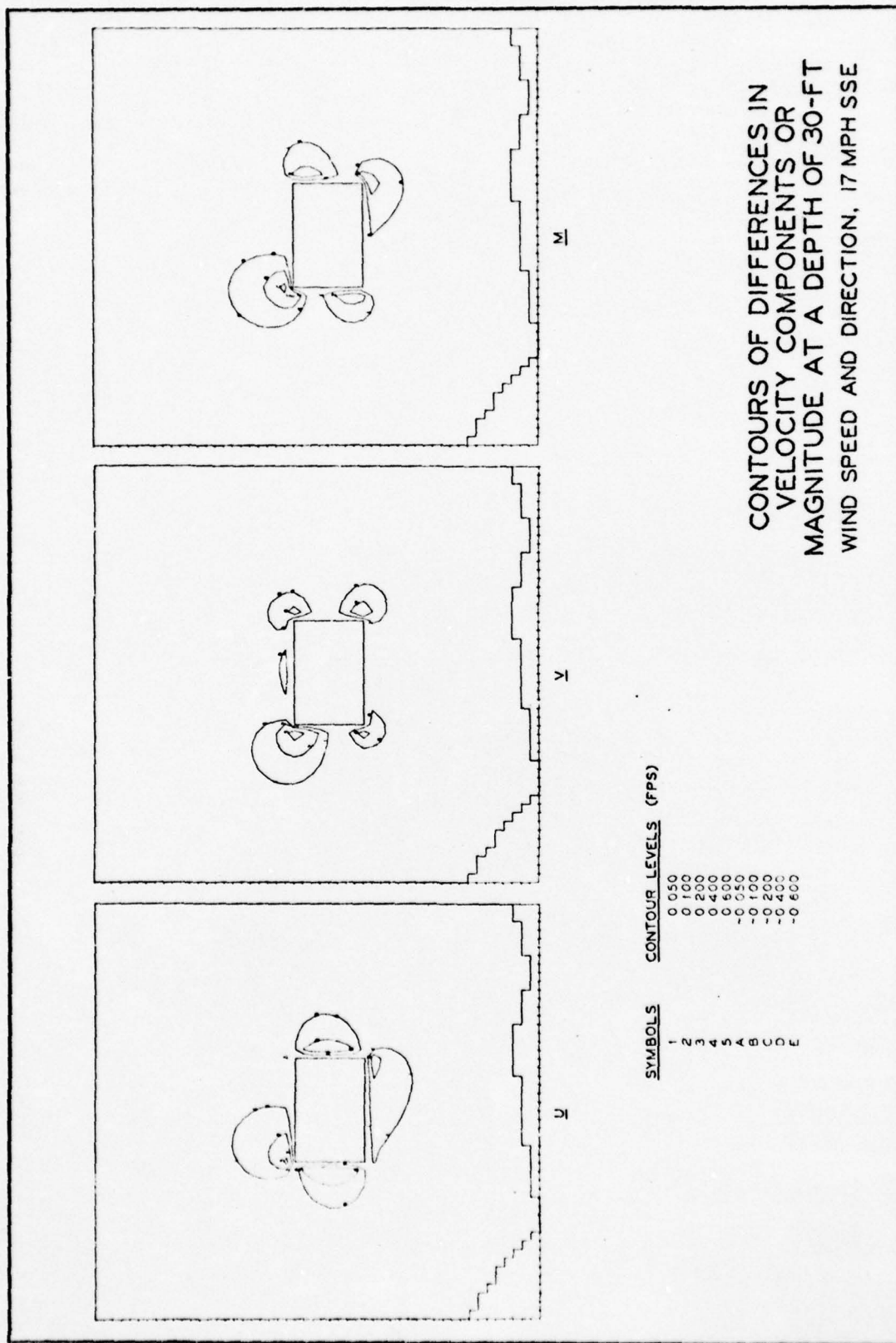
30-FT DEPTH
1 FT/SEC = (—) X 500

WITH JETPORT

NEARSHORE VERTICAL VELOCITIES
AT 10-, 20-, AND 30-FT DEPTHS
WIND SPEED AND DIRECTION, 17 MPH SSE



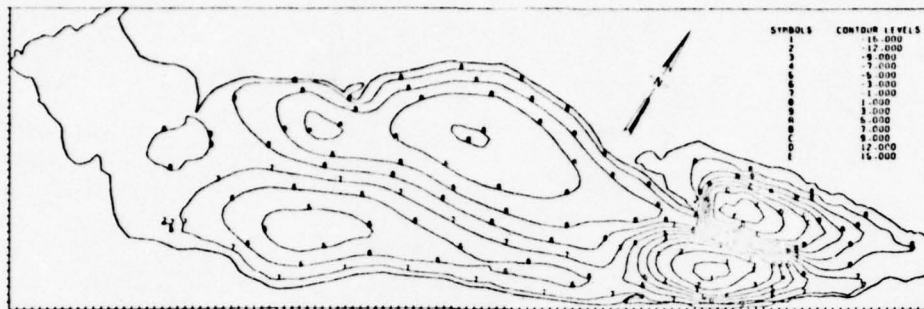




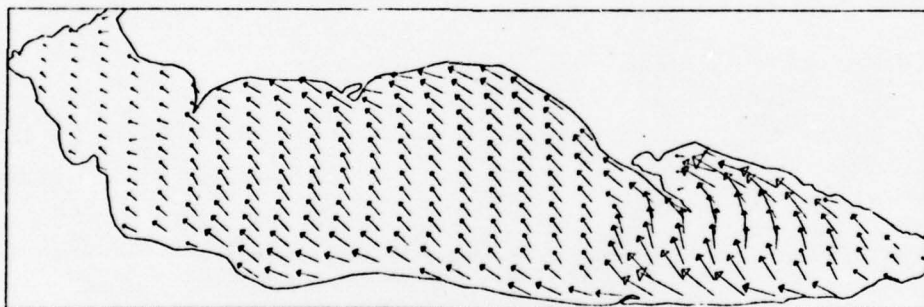
SYMBOLS CONTOUR LEVELS (FPS)

1	0 050
2	0 100
3	0 200
4	0 400
5	0 600
A	-0 050
B	-0 100
C	-0 200
D	-0 400
E	-0 600

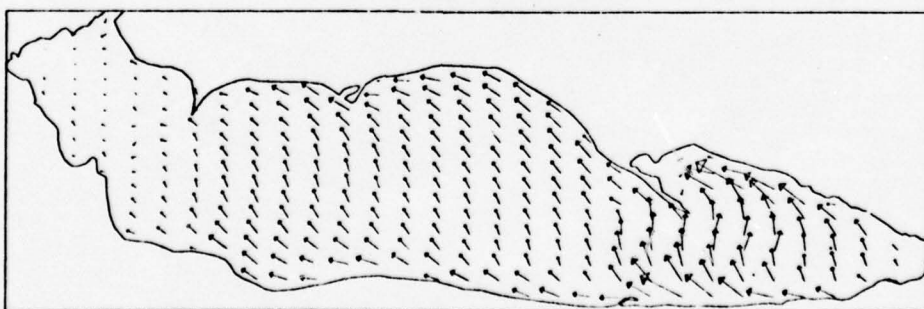
CONTOURS OF DIFFERENCES IN
VELOCITY COMPONENTS OR
MAGNITUDE AT A DEPTH OF 30-FT
WIND SPEED AND DIRECTION, 17 MPH SSE



CONTOURS OF NON-DIMENSIONAL STREAM FUNCTION

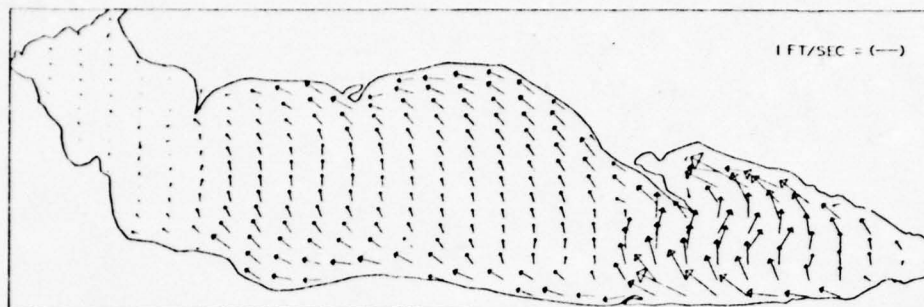


0-FT DEPTH

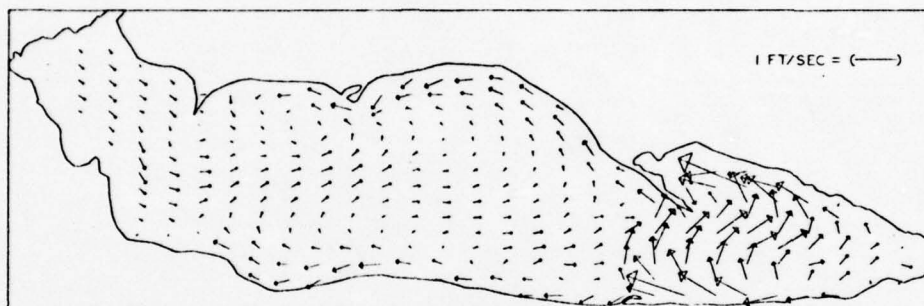


5-FT DEPTH
HORIZONTAL VELOCITIES
1 FT/SEC = (—)

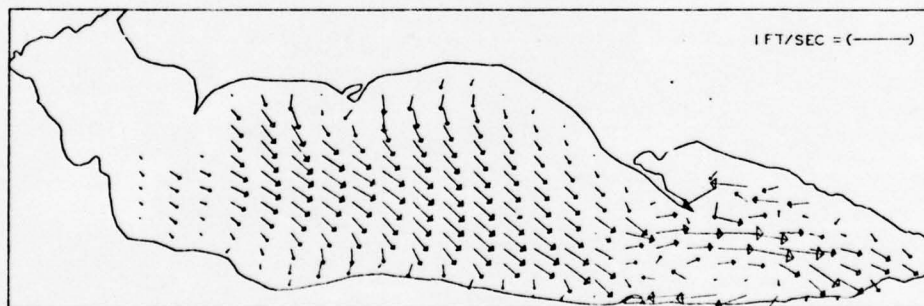
STREAM FUNCTION
CONTOURS AND HORIZONTAL
VELOCITIES FOR LAKE ERIE
WIND SPEED AND
DIRECTION, 35 MPH E



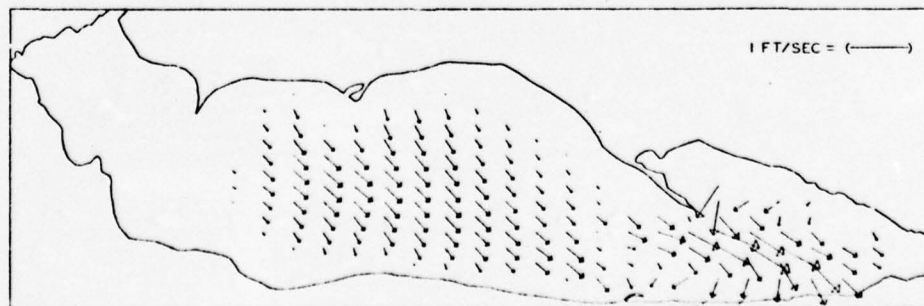
10-FT DEPTH



20-FT DEPTH

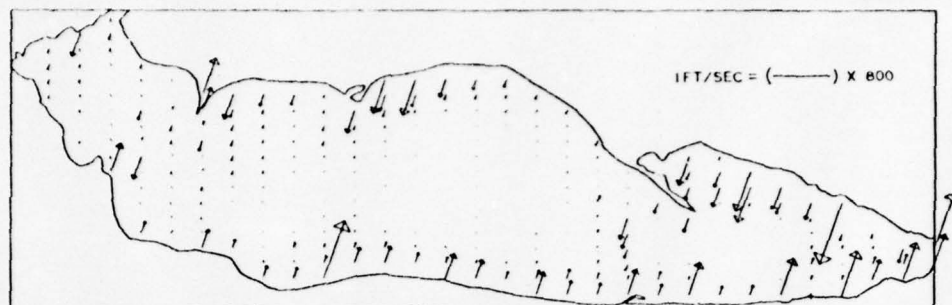


40-FT DEPTH

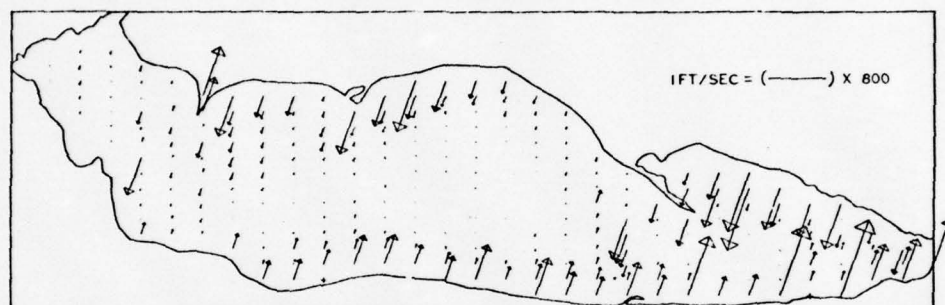


60-FT DEPTH

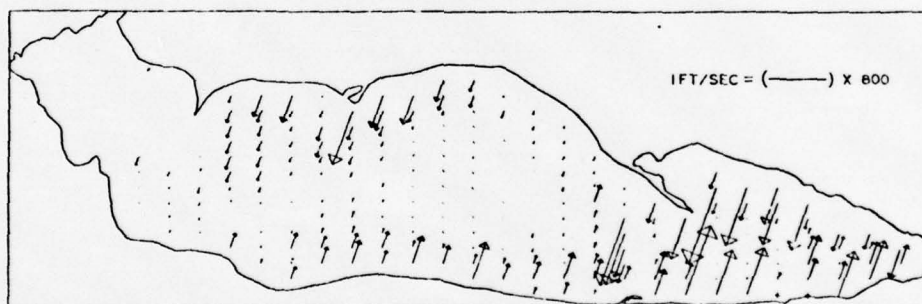
HORIZONTAL VELOCITIES AT
10-, 20-, 40-, AND 60-FT DEPTHS
WIND SPEED AND DIRECTION, 35 MPH E



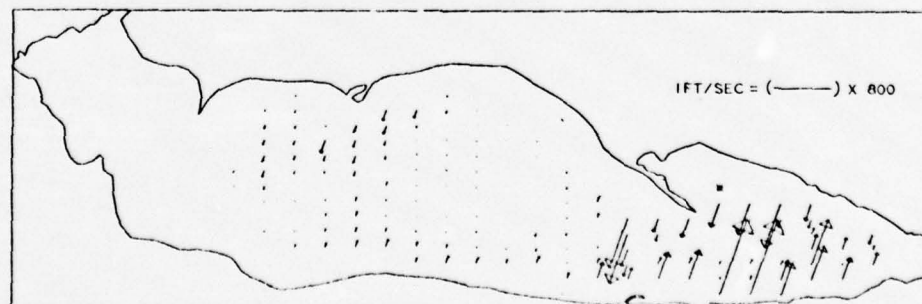
10-FT DEPTH



20-FT DEPTH

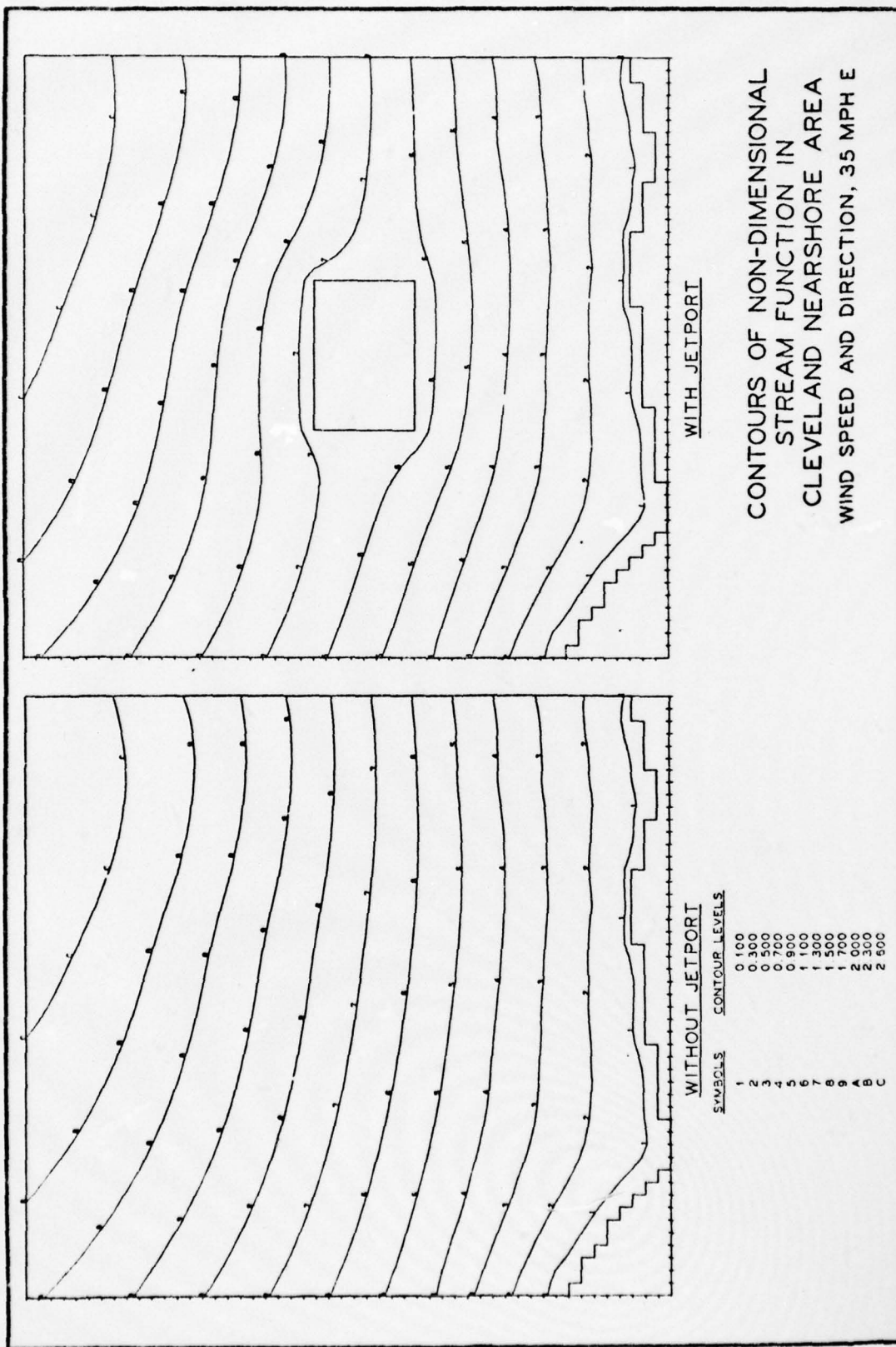


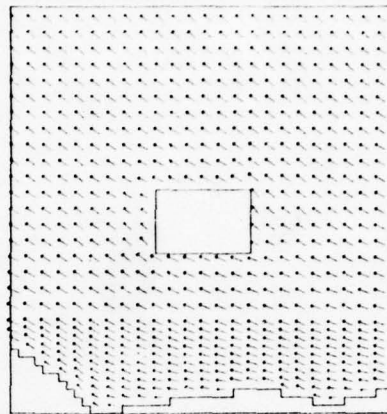
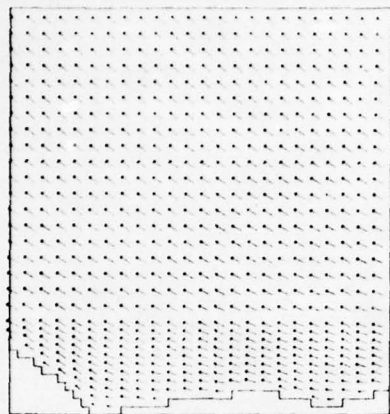
40-FT DEPTH



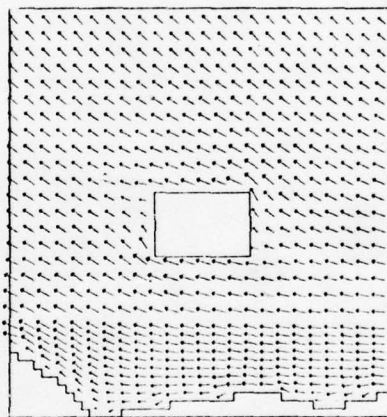
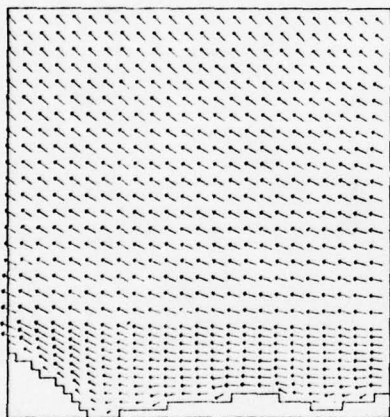
60-FT DEPTH

VERTICAL VELOCITIES AT
10-, 20-, 40-, AND 60-FT DEPTHS
WIND SPEED AND DIRECTION, 35 MPH E

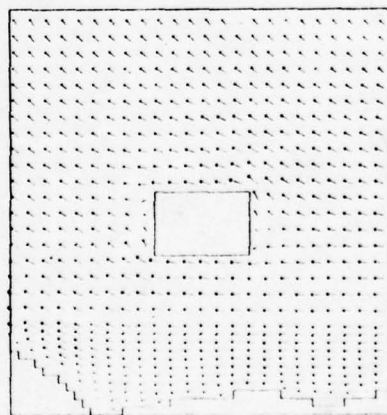
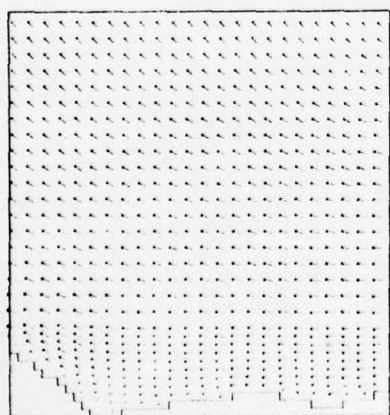




0-FT DEPTH
1 FT/SEC = (—)



10-FT DEPTH
1 FT/SEC = (—)

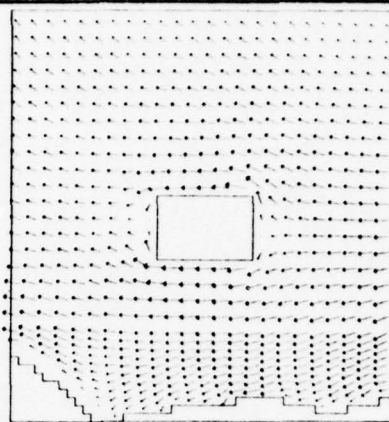
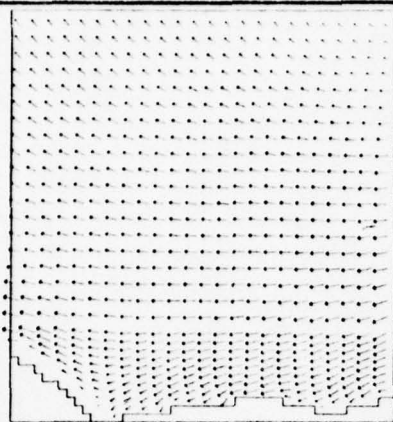


WITHOUT JETPORT

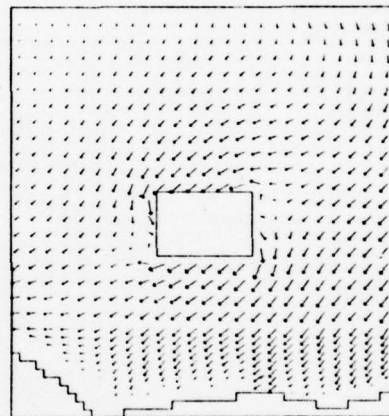
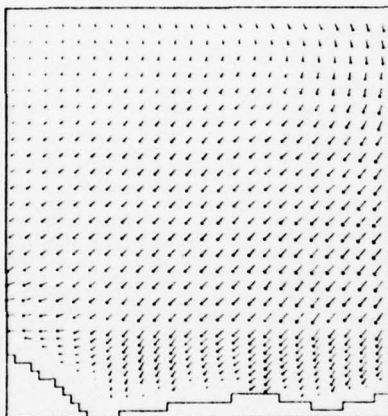
15-FT DEPTH
1 FT/SEC = (—)

WITH JETPORT

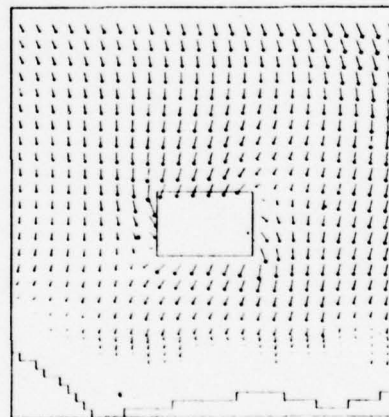
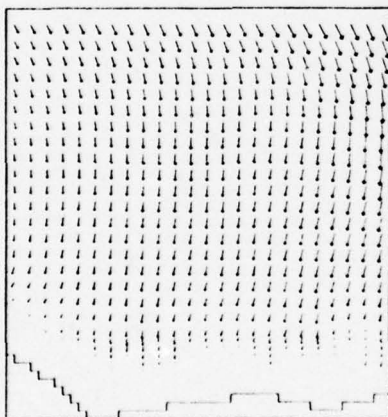
NEARSHORE HORIZONTAL VELOCITIES
AT 0-, 10-, AND 15-FT DEPTHS
WIND SPEED AND DIRECTION, 35 MPH E



20-FT DEPTH
1 FT/SEC = (→)



30-FT DEPTH
1 FT/SEC = (→)

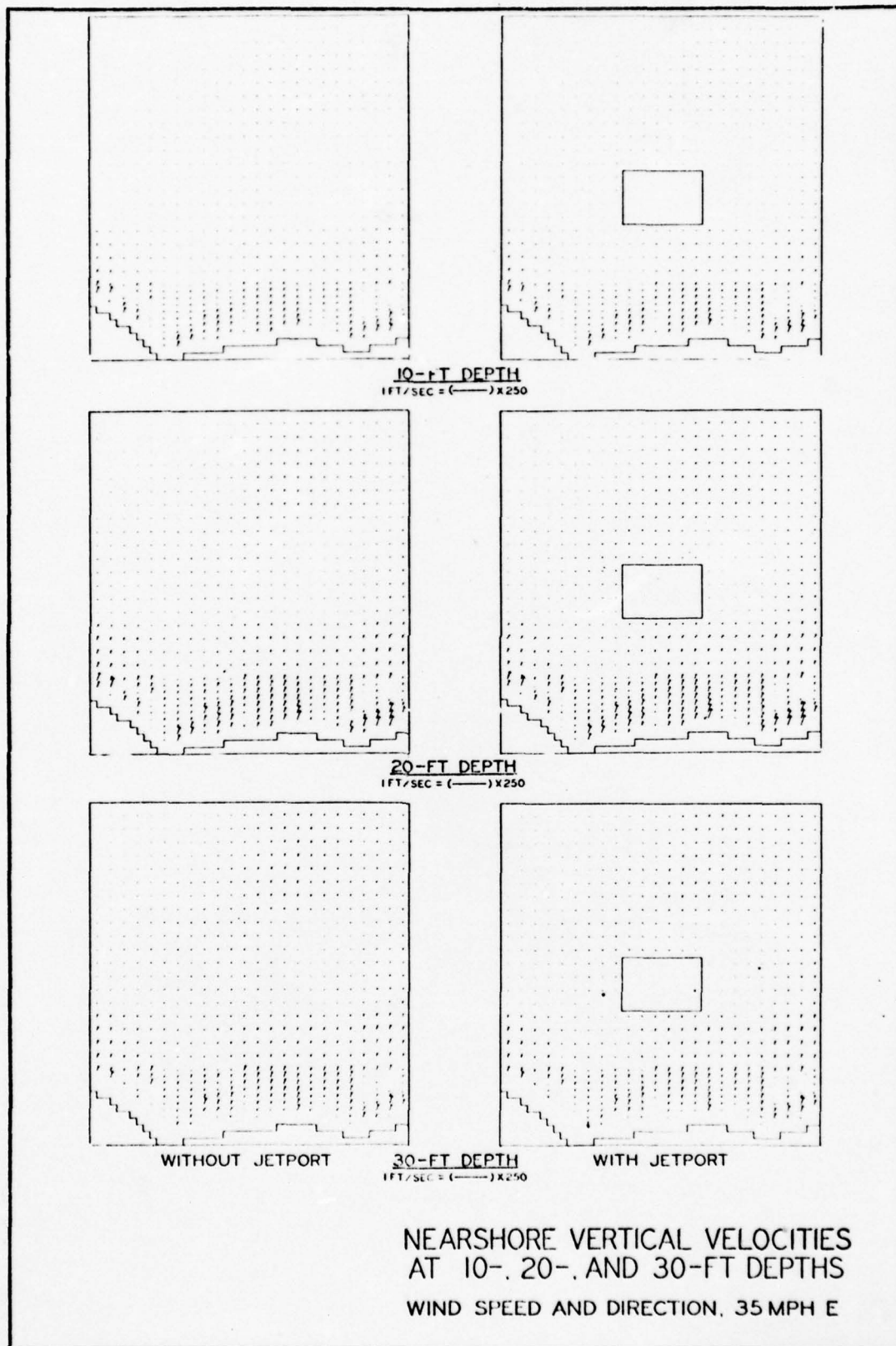


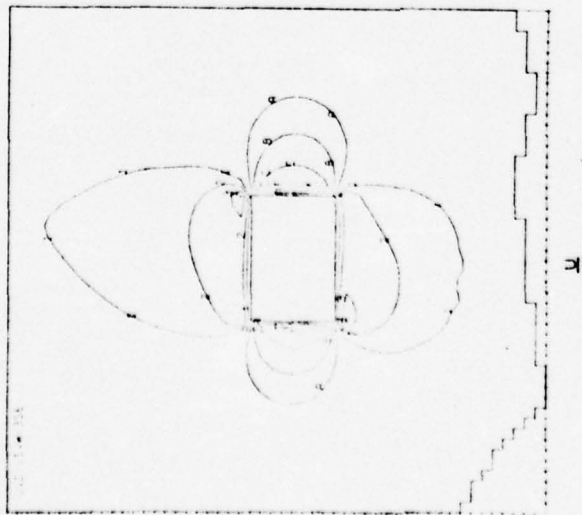
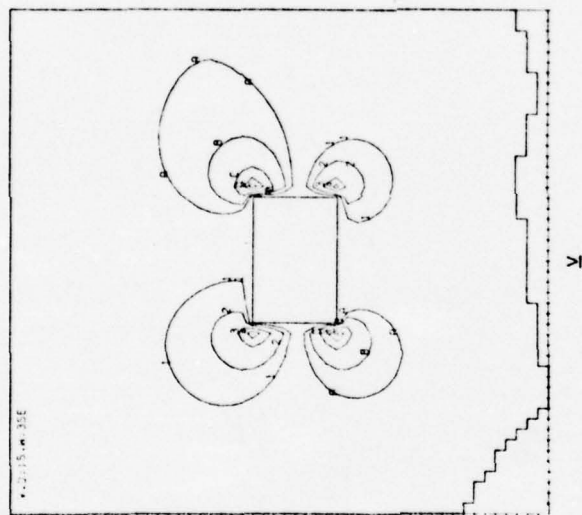
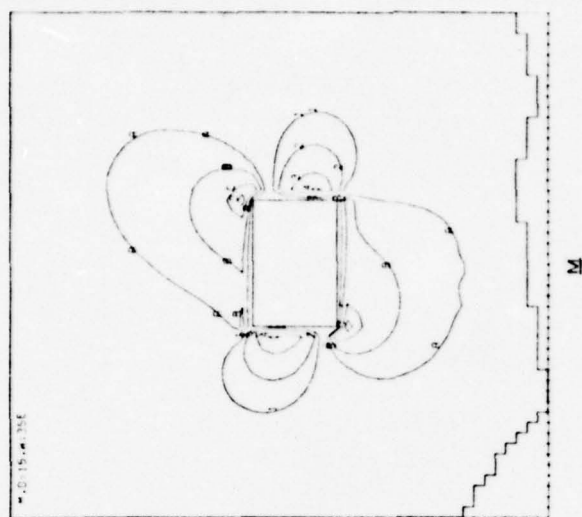
WITHOUT JETPORT

40-FT DEPTH
1 FT/SEC = (→)

WITH JETPORT

NEARSHORE HORIZONTAL VELOCITIES
AT 20-, 30-, AND 40-FT DEPTHS
WIND SPEED AND DIRECTION, 35 MPH E





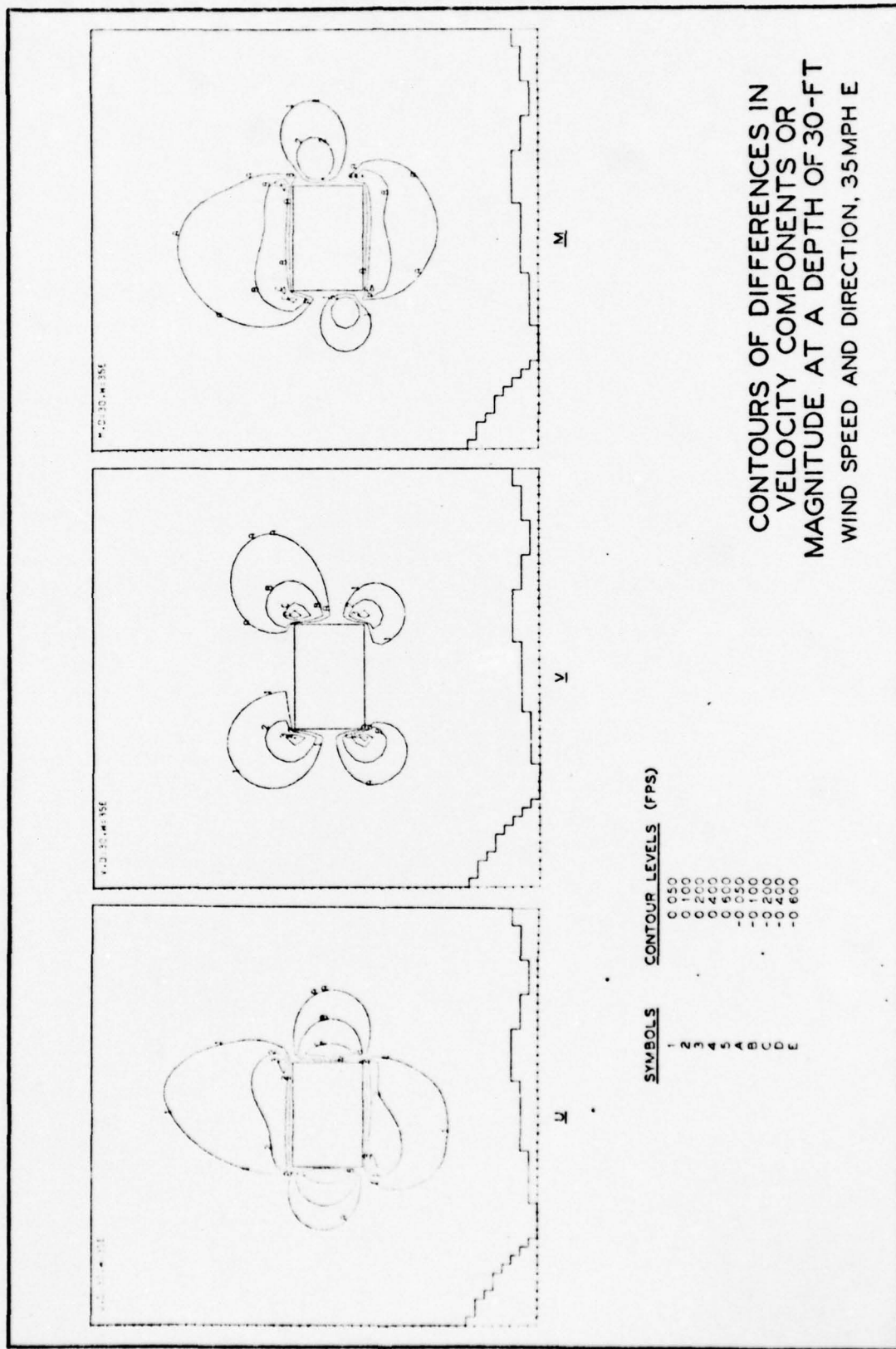
<u>SYMBOLS</u>	<u>CONTOUR LEVELS (FPS)</u>
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16
17	17
18	18
19	19
20	20
21	21
22	22
23	23
24	24
25	25
26	26
27	27
28	28
29	29
30	30
31	31
32	32
33	33
34	34
35	35
36	36
37	37
38	38
39	39
40	40
41	41
42	42
43	43
44	44
45	45
46	46
47	47
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50	50
51	51
52	52
53	53
54	54
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56	56
57	57
58	58
59	59
60	60
61	61
62	62
63	63
64	64
65	65
66	66
67	67
68	68
69	69
70	70
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72	72
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74	74
75	75
76	76
77	77
78	78
79	79
80	80
81	81
82	82
83	83
84	84
85	85
86	86
87	87
88	88
89	89
90	90
91	91
92	92
93	93
94	94
95	95
96	96
97	97
98	98
99	99
100	100

SYMBOLS

• **အကျဉ်းချုပ်ပုဒ်မ**

[illegible]

CONTOURS OF DIFFERENCES IN
VELOCITY COMPONENTS OR
MAGNITUDE AT A DEPTH OF 15-FT
WIND SPEED AND DIRECTION, 35MPHE

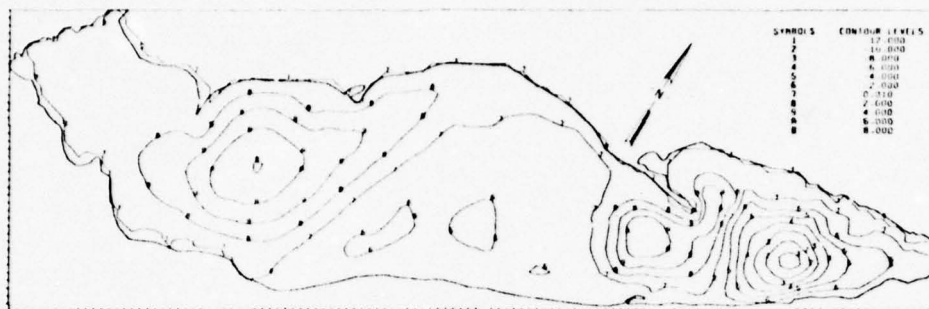


SYMBOLS CONTOUR LEVELS (FPS)

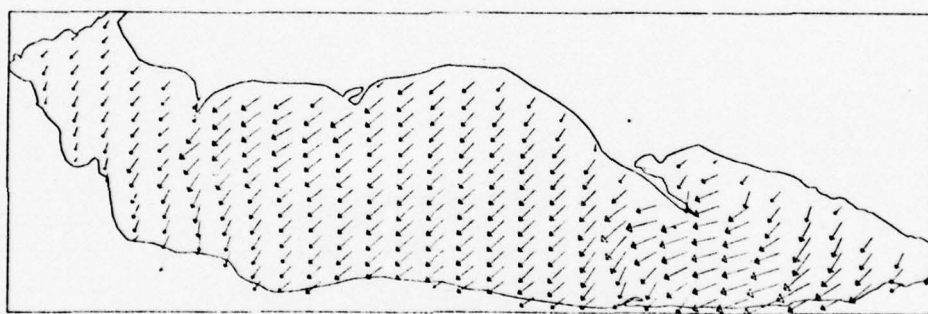
1 2 3 4 5 6 7 8 9 10

0 050
0 100
0 200
0 400
0 600
-0 050
-0 100
-0 200
-0 400
-0 600

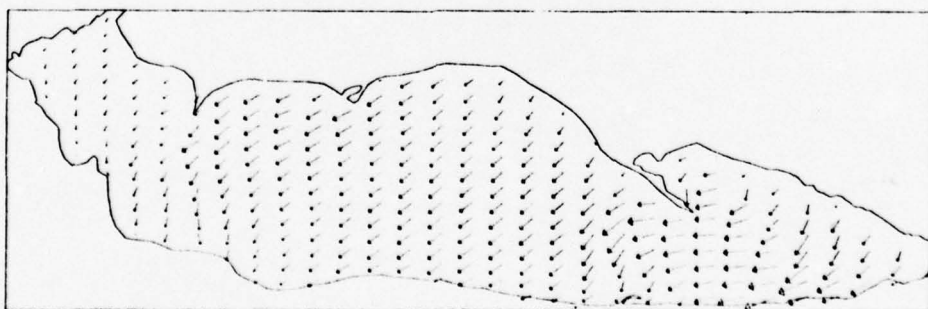
CONTOURS OF DIFFERENCES IN
VELOCITY COMPONENTS OR
MAGNITUDE AT A DEPTH OF 30-FT
WIND SPEED AND DIRECTION, 35MPH E



CONTOURS OF NON-DIMENSIONAL STREAM FUNCTION



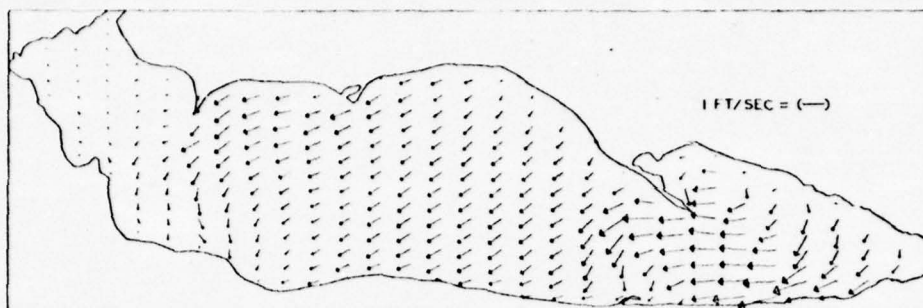
0-FT DEPTH



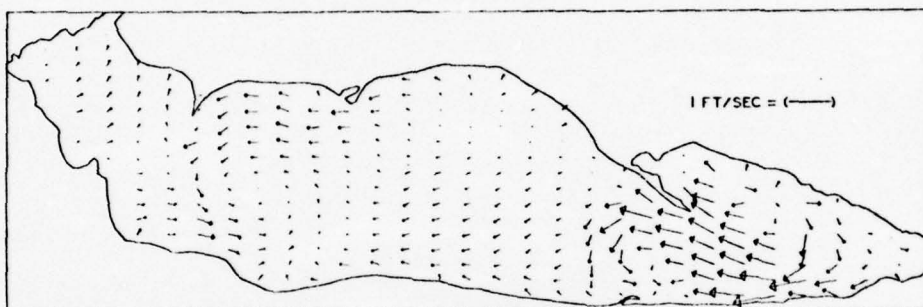
5-FT DEPTH
HORIZONTAL VELOCITIES
1 FT/SEC = (—)

STREAM FUNCTION
CONTOURS AND HORIZONTAL
VELOCITIES FOR LAKE ERIE

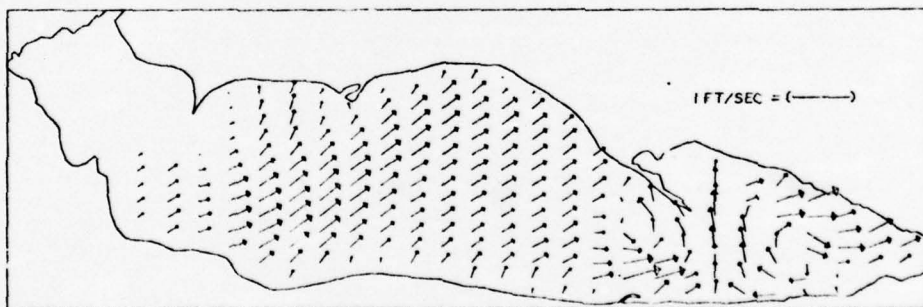
WIND SPEED AND
DIRECTION, 35MPH N



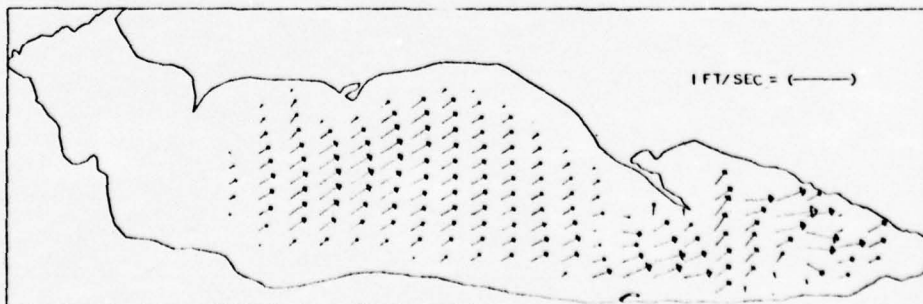
10-FT DEPTH



20-FT DEPTH

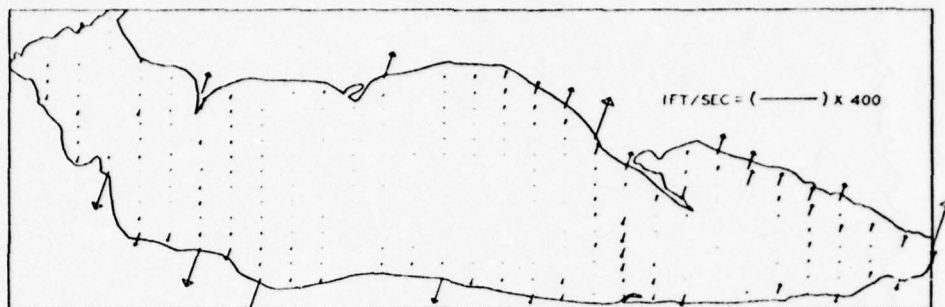


40-FT DEPTH

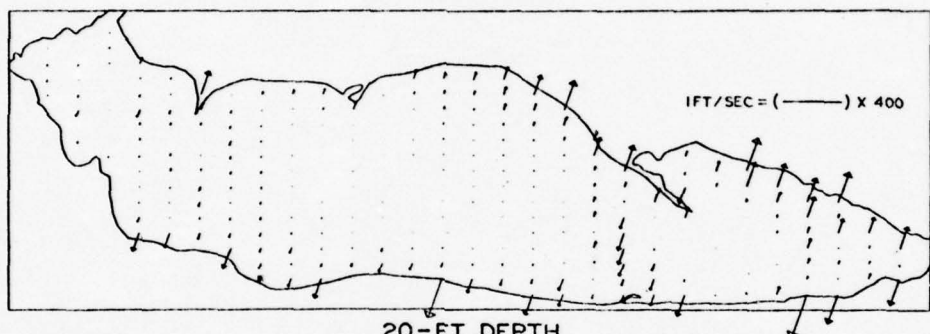


60-FT DEPTH

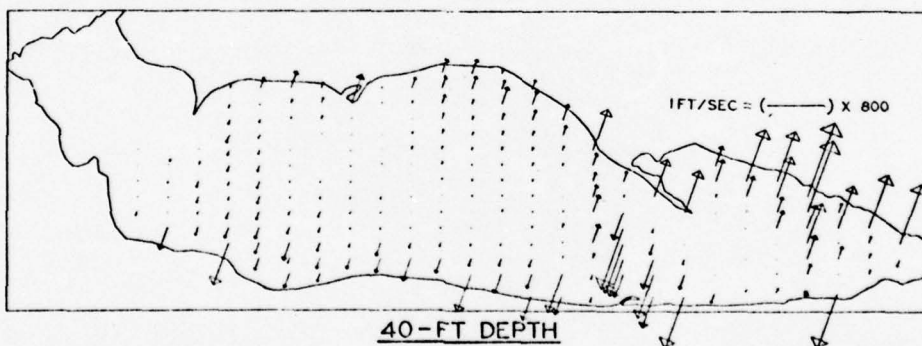
HORIZONTAL VELOCITIES AT
10-, 20-, 40-, AND 60-FT DEPTHS
WIND SPEED AND DIRECTION, 35MPH N



10-FT DEPTH



20-FT DEPTH

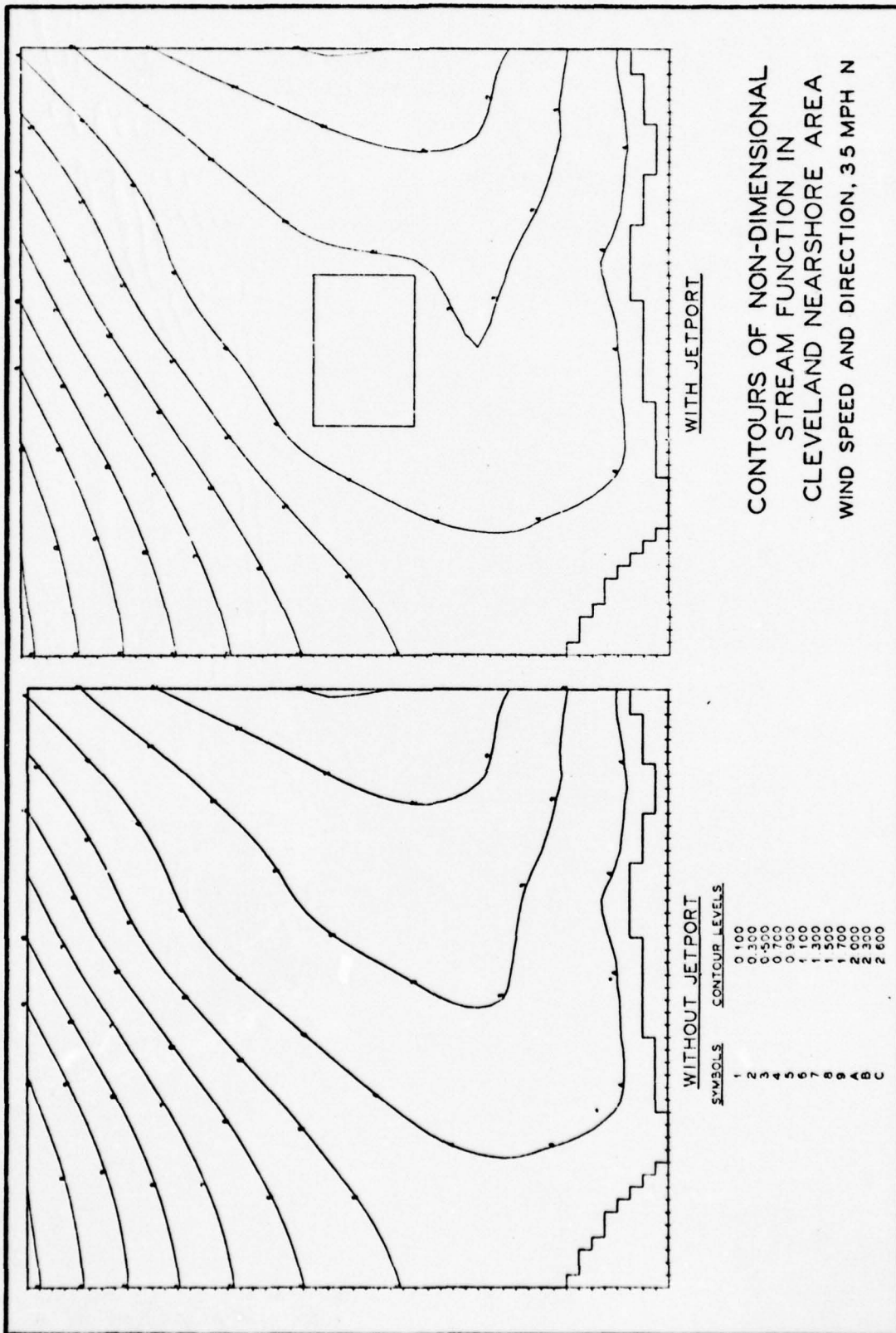


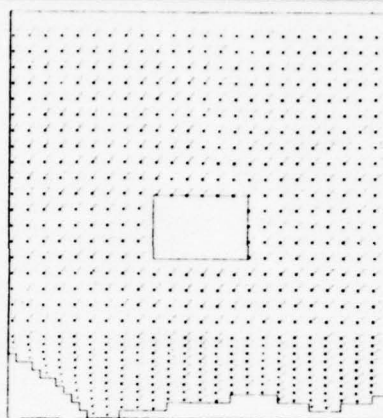
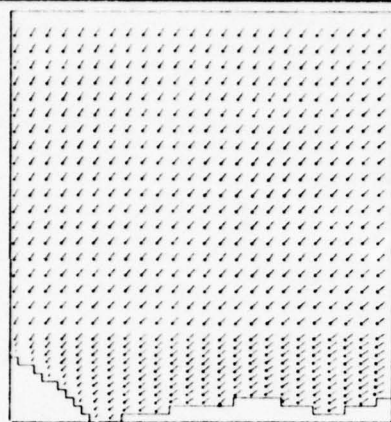
40-FT DEPTH



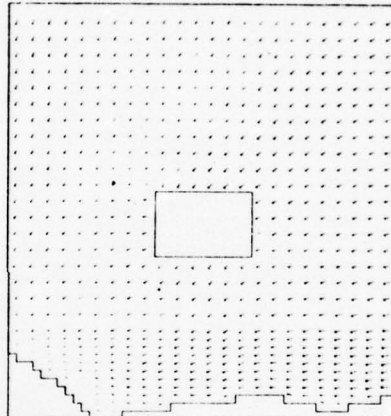
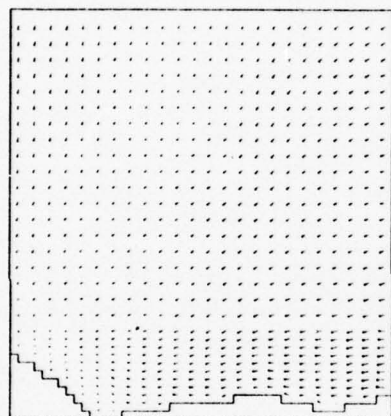
60-FT DEPTH

VERTICAL VELOCITIES AT
10-, 20-, 40-, AND 60-FT DEPTHS
WIND SPEED AND DIRECTION, 35MPH N

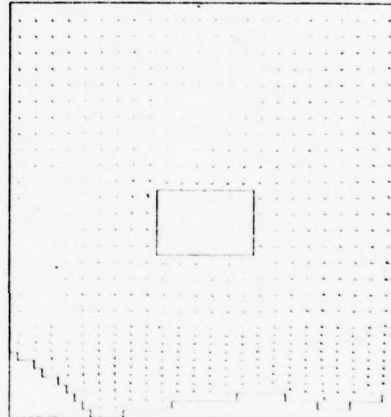
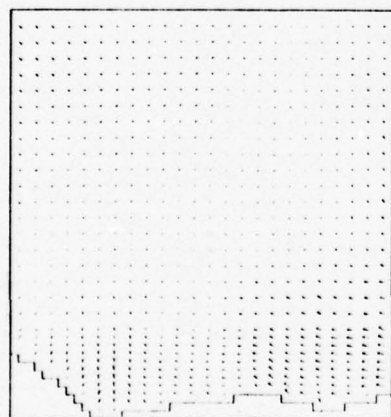




0-FT DEPTH
1 FT/SEC = (—)



10-FT DEPTH
1 FT/SEC = (—)

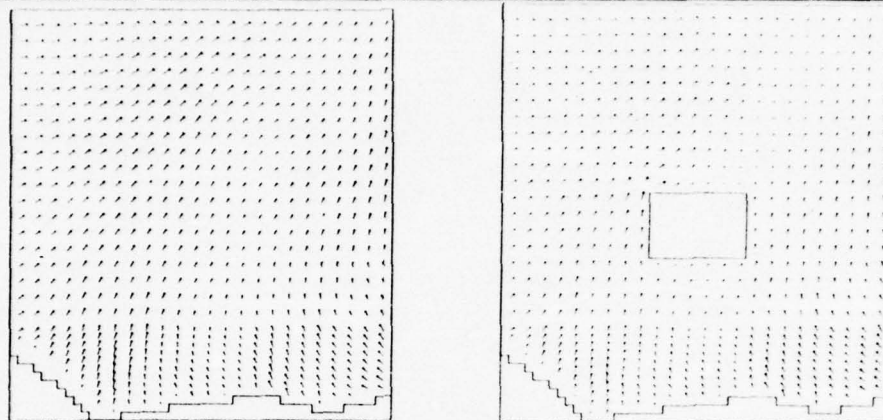


WITHOUT JETPORT

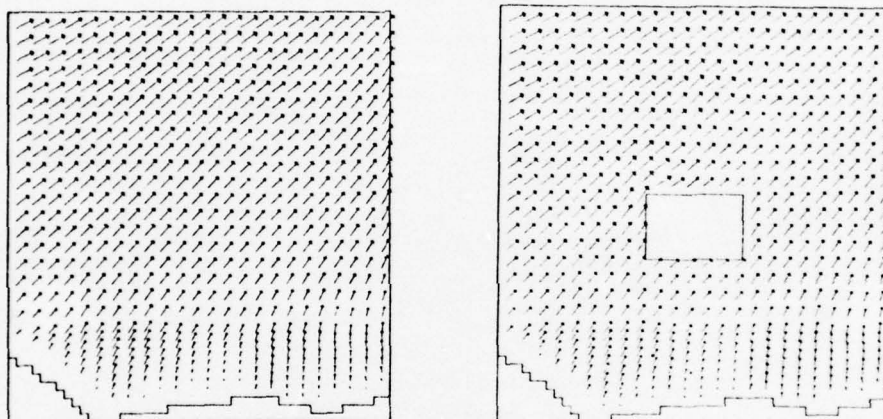
15-FT DEPTH
1 FT/SEC = (—)

WITH JETPORT

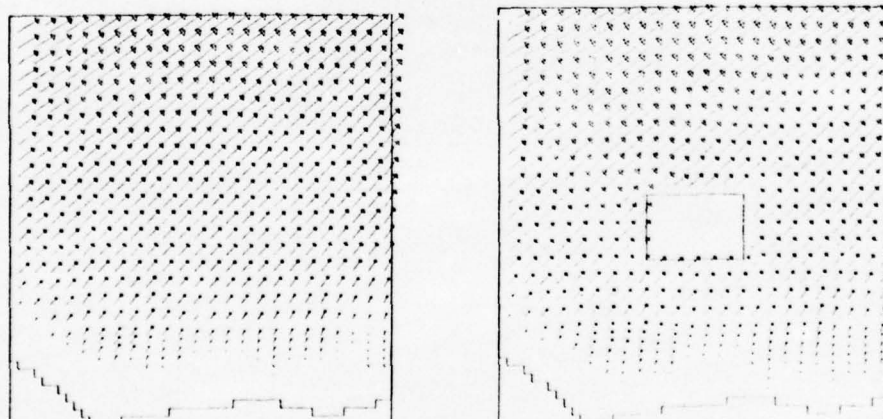
NEARSHORE HORIZONTAL VELOCITIES
AT 0-, 10-, AND 15-FT DEPTHS
WIND SPEED AND DIRECTION, 35 MPH N



20-FT DEPTH
1 FT/SEC = (—→)



30-FT DEPTH
1 FT/SEC = (—→)



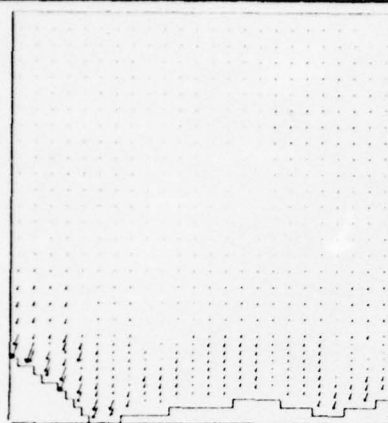
WITHOUT JETPORT

40-FT DEPTH
1 FT/SEC = (—→)

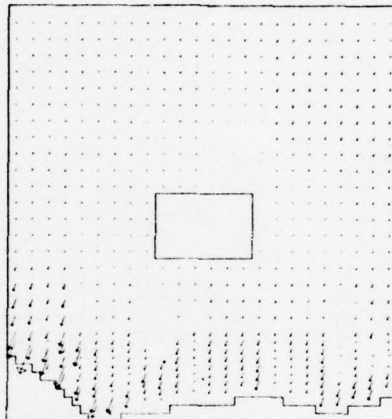
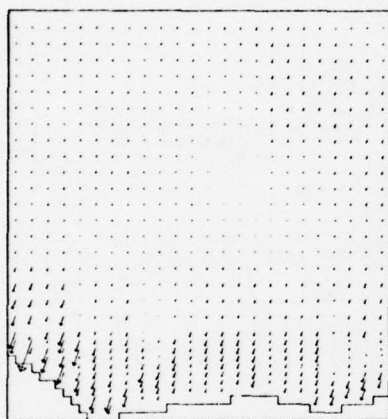
WITH JETPORT

NEARSHORE HORIZONTAL VELOCITIES
AT 20-, 30-, AND 40-FT DEPTHS

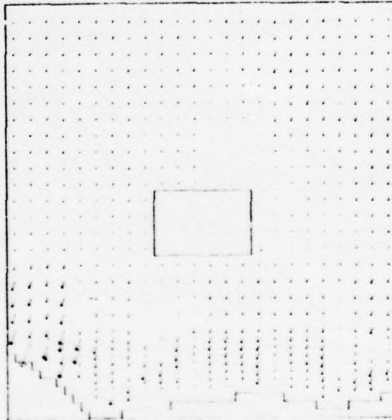
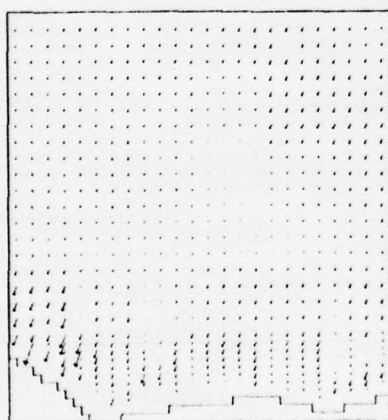
WIND SPEED AND DIRECTION, 35 MPH N



10-FT DEPTH
1 FT/SEC = (→) X250



20-FT DEPTH
1 FT/SEC = (→) X250

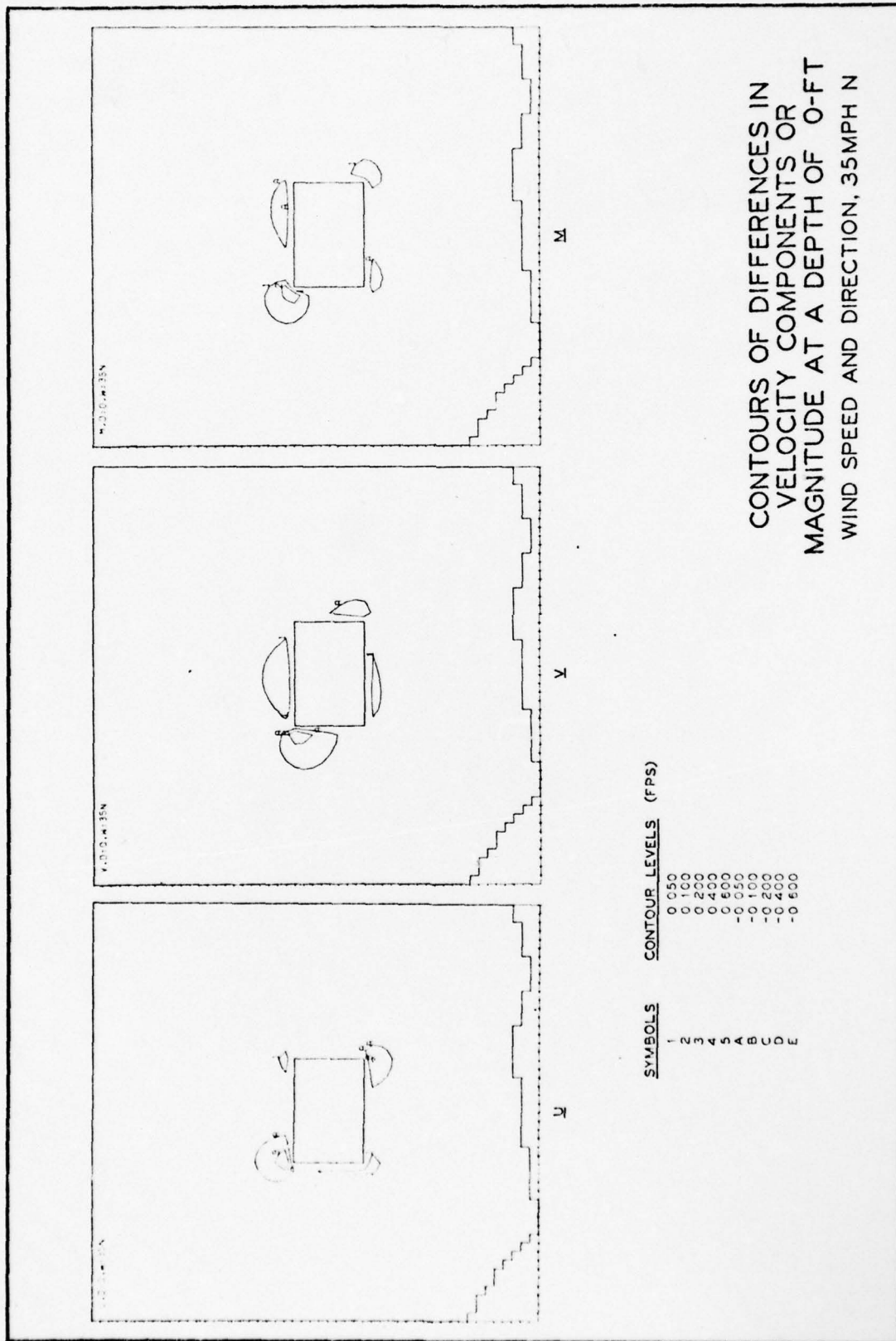


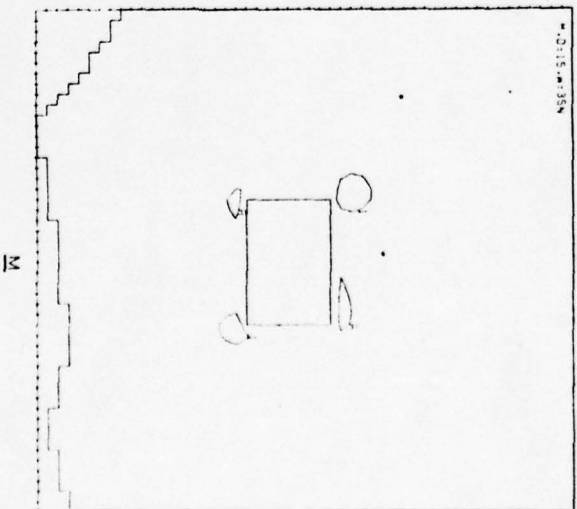
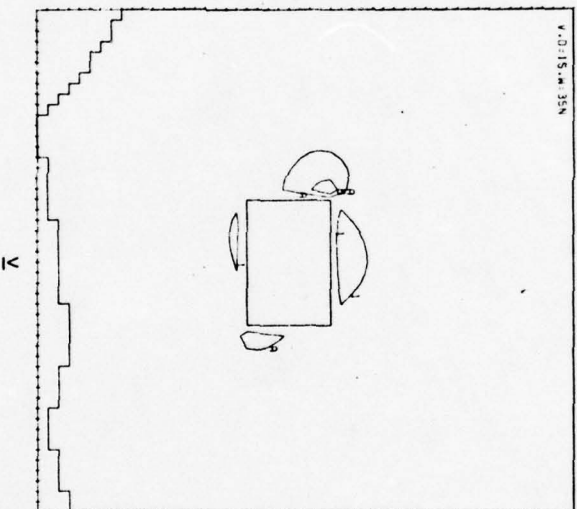
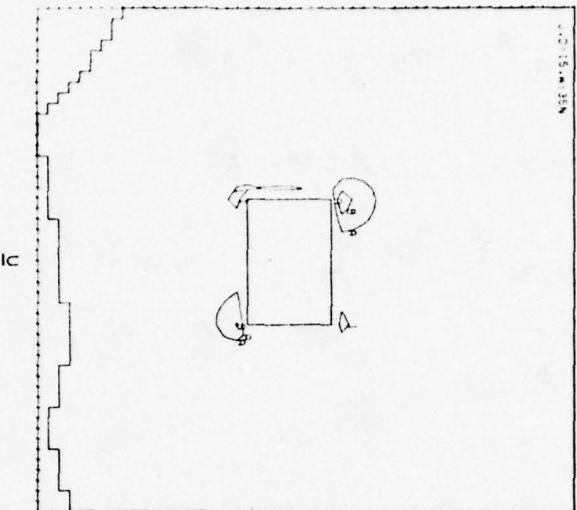
WITHOUT JETPORT

30-FT DEPTH
1 FT/SEC = (→) X250

WITH JETPORT

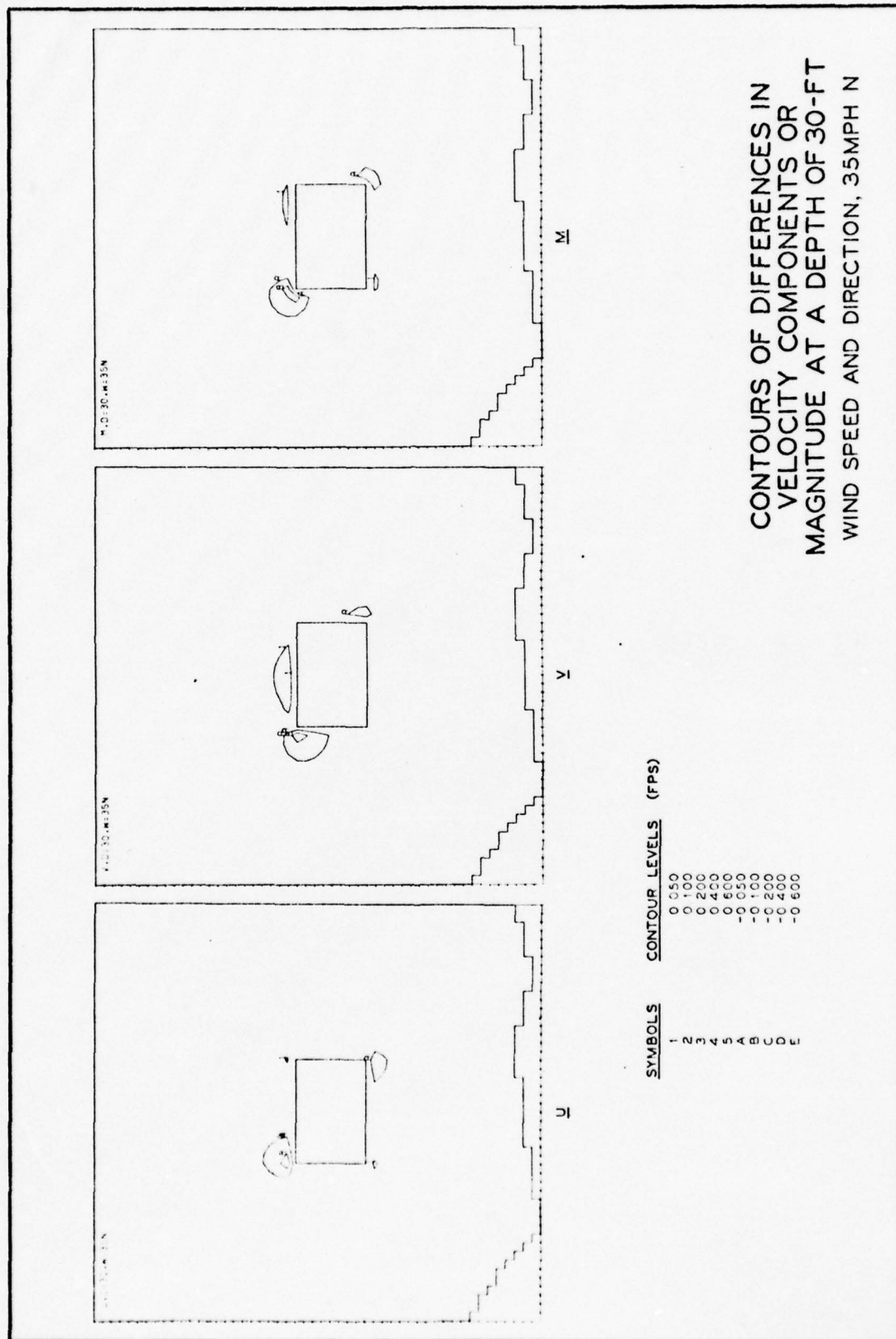
NEARSHORE VERTICAL VELOCITIES
AT 10-, 20-, AND 30-FT DEPTHS
WIND SPEED AND DIRECTION, 35 MPH N



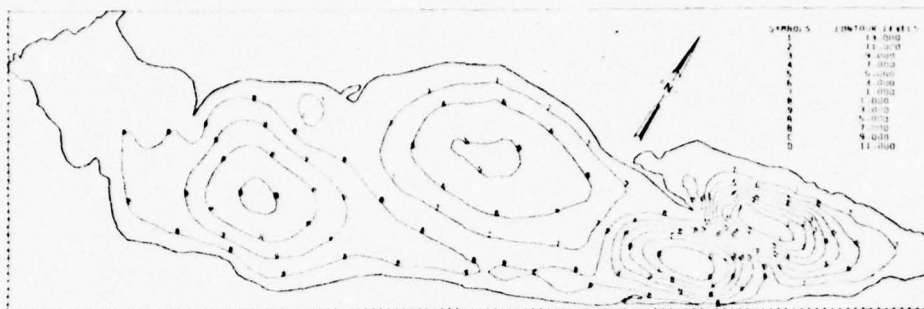


SYMBOLS	CONTOUR LEVELS (FPS)
1	0.050
2	0.100
3	0.200
4	0.400
5	0.600
A	-0.050
B	-0.100
C	-0.200
D	-0.400
E	-0.600

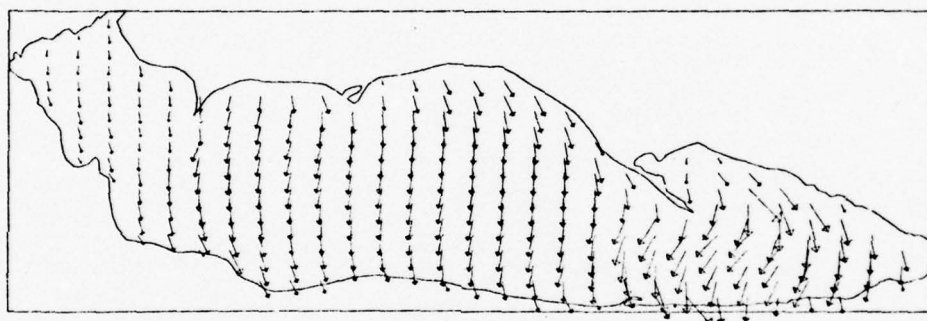
CONTOURS OF DIFFERENCES IN
VELOCITY COMPONENTS OR
MAGNITUDE AT A DEPTH OF 15-FT
WIND SPEED AND DIRECTION, 35MPH N



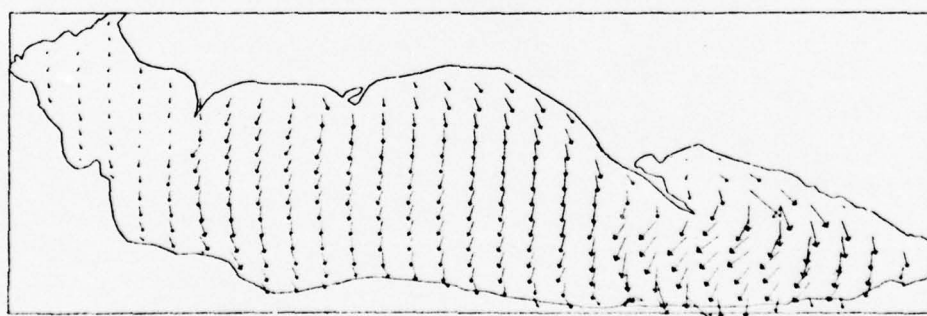
CONTOURS OF DIFFERENCES IN
VELOCITY COMPONENTS OR
MAGNITUDE AT A DEPTH OF 30-FT
WIND SPEED AND DIRECTION, 35MPH N



CONTOURS OF NON-DIMENSIONAL STREAM FUNCTION



0-FT. DEPTH

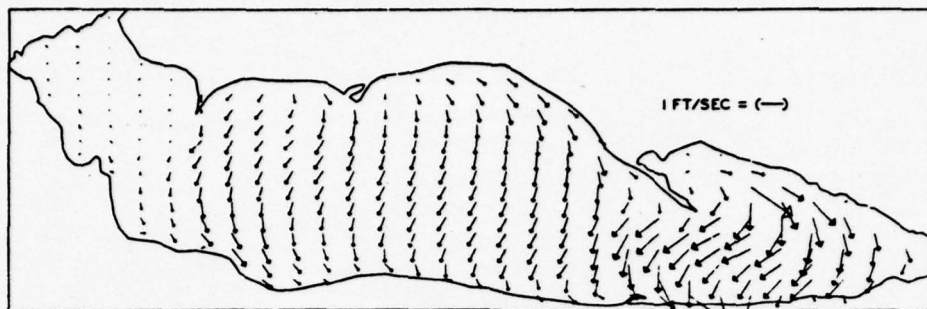


5-FT. DEPTH

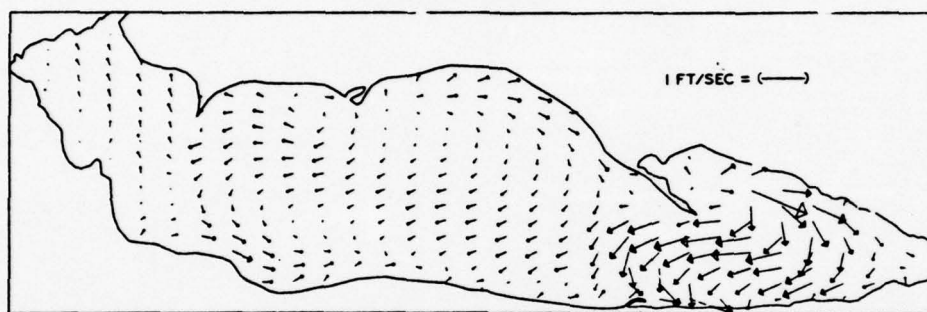
HORIZONTAL VELOCITIES
1 FT/SEC = (—)

STREAM FUNCTION
CONTOURS AND HORIZONTAL
VELOCITIES FOR LAKE ERIE

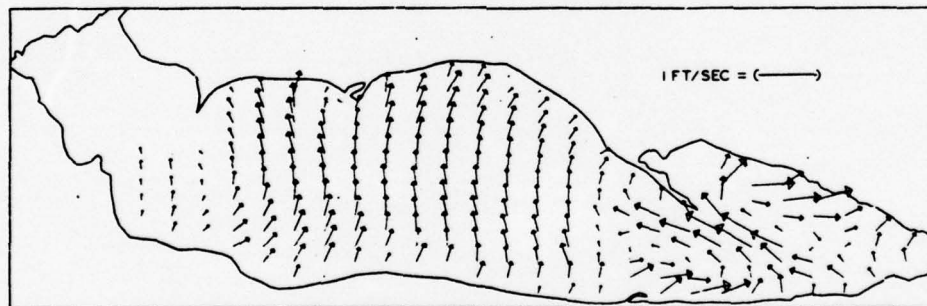
WIND SPEED AND
DIRECTION, 35MPH NW



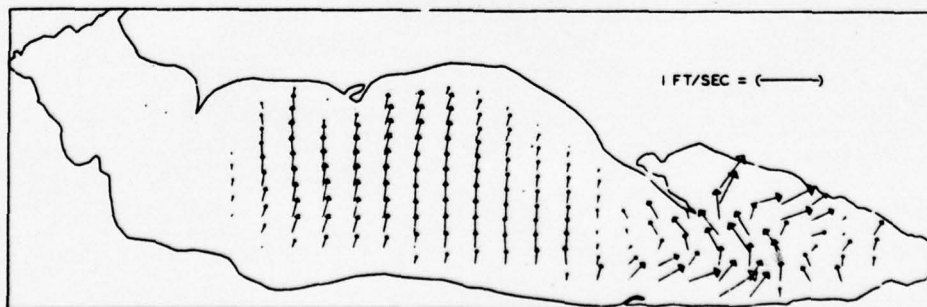
10-FT DEPTH



20-FT DEPTH

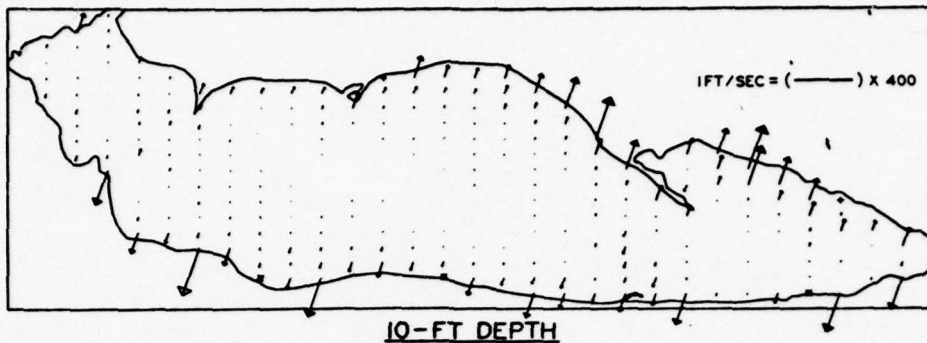


40-FT DEPTH

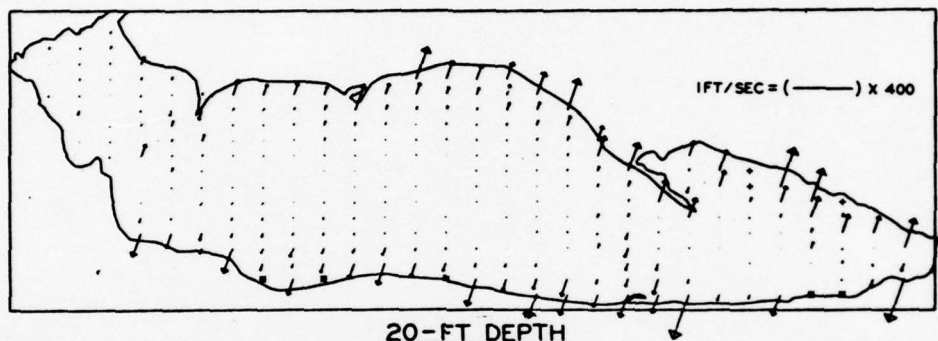


60-FT DEPTH

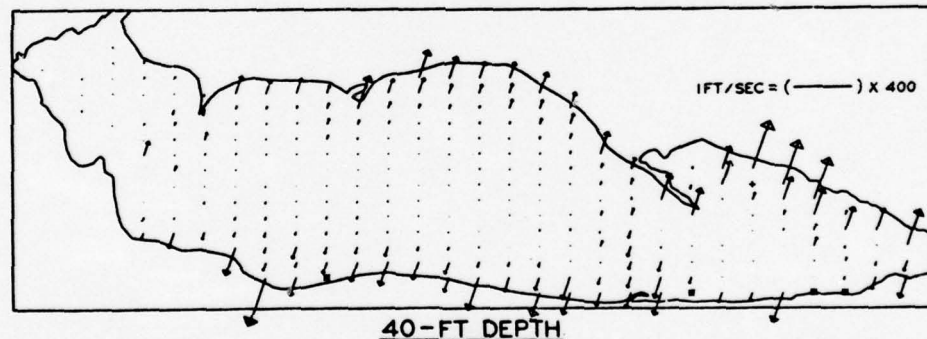
HORIZONTAL VELOCITIES AT
10-, 20-, 40-, AND 60-FT DEPTHS
WIND SPEED AND DIRECTION, 35MPH NW



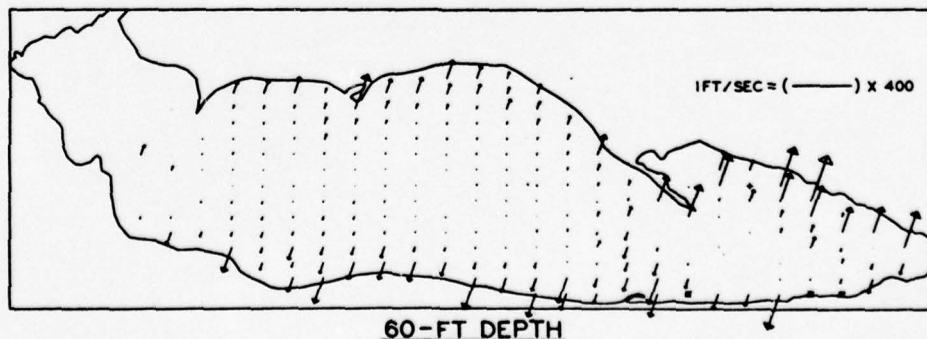
10-FT DEPTH



20-FT DEPTH

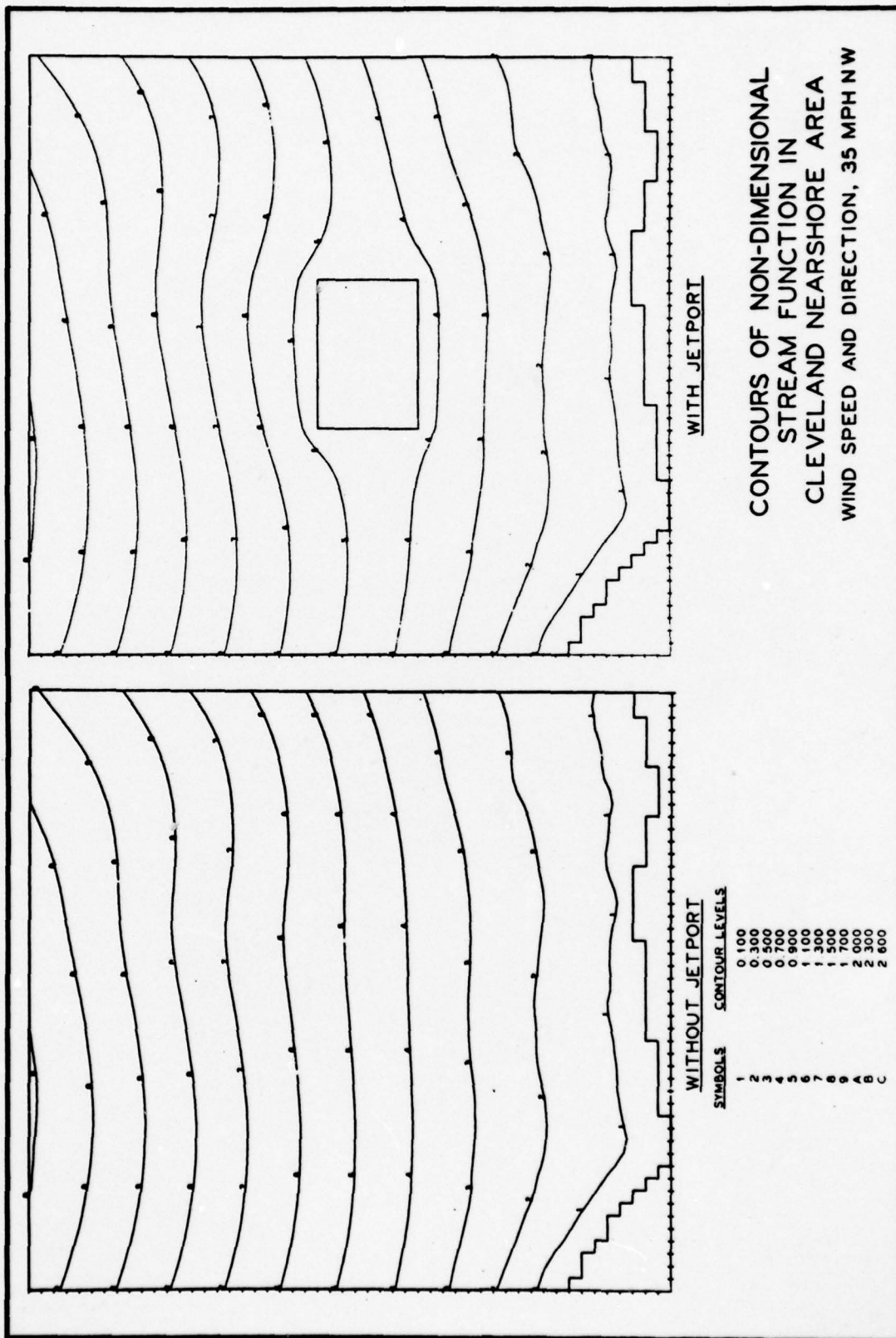


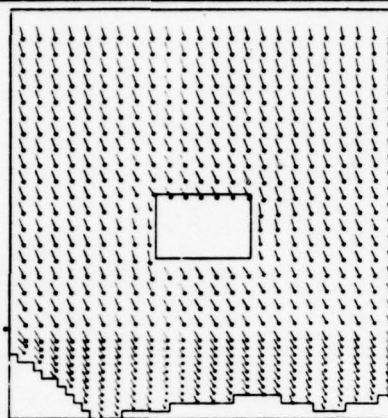
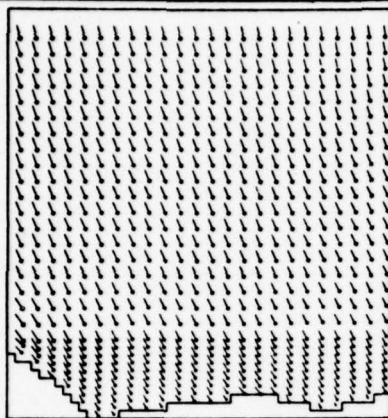
40-FT DEPTH



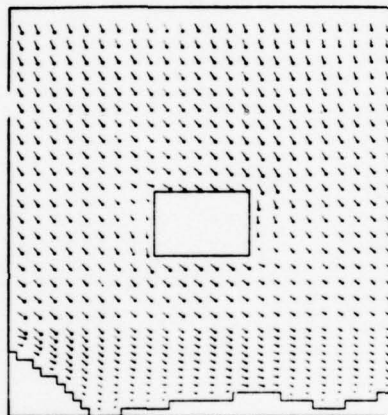
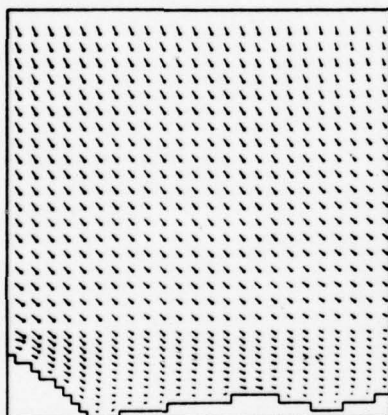
60-FT DEPTH

VERTICAL VELOCITIES AT
10-, 20-, 40-, AND 60-FT DEPTHS
WIND SPEED AND DIRECTION, 35MPH NW

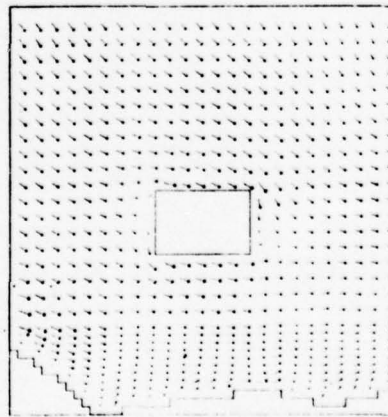
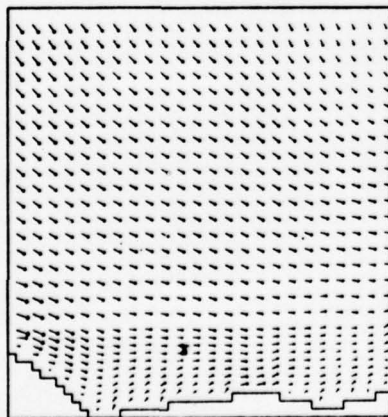




0-FT DEPTH
1 FT/SEC = (—)



10-FT DEPTH
1 FT/SEC = (—)



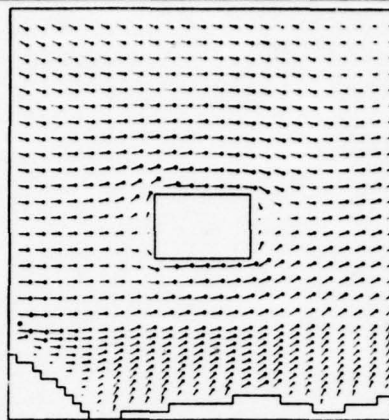
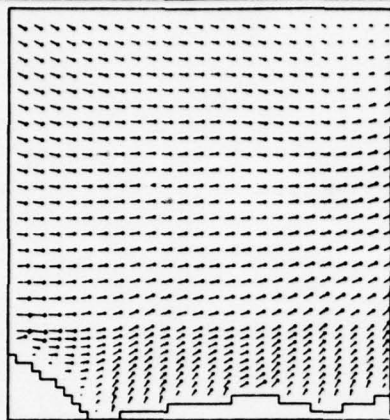
WITHOUT JETPORT

15-FT DEPTH
1 FT/SEC = (—)

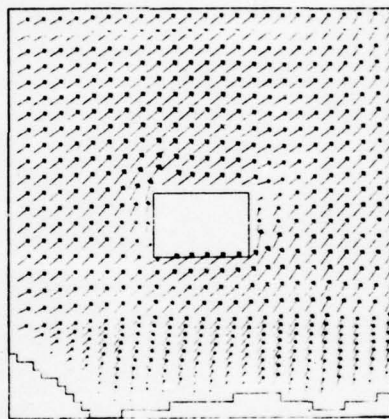
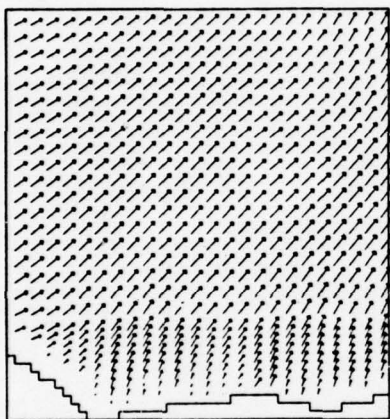
WITH JETPORT

NEARSHORE HORIZONTAL VELOCITIES
AT 0-, 10-, AND 15-FT DEPTHS

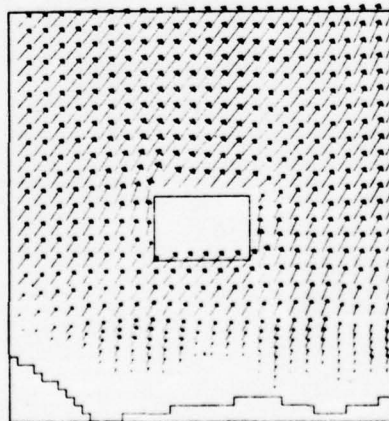
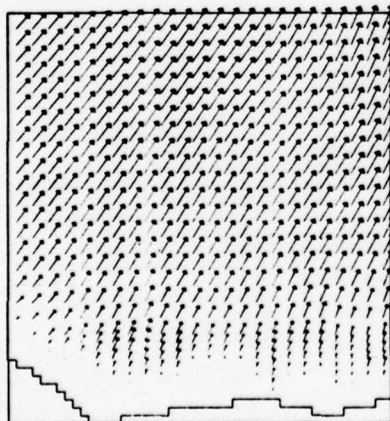
WIND SPEED AND DIRECTION, 35 MPH N W



20-FT DEPTH
1 FT/SEC = (→)



30-FT DEPTH
1 FT/SEC = (→)

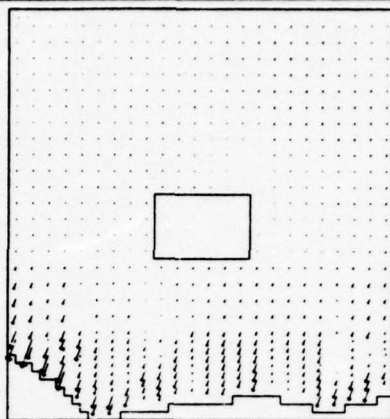
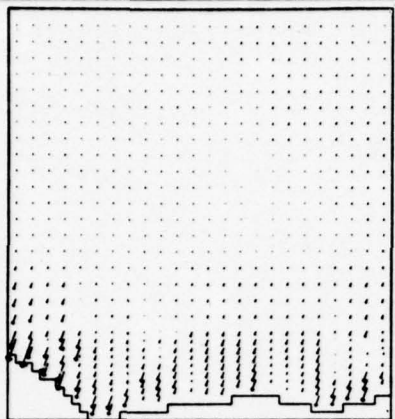


WITHOUT JETPORT

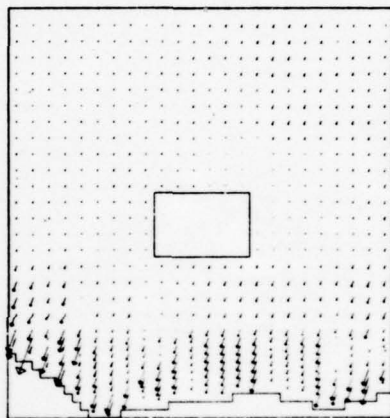
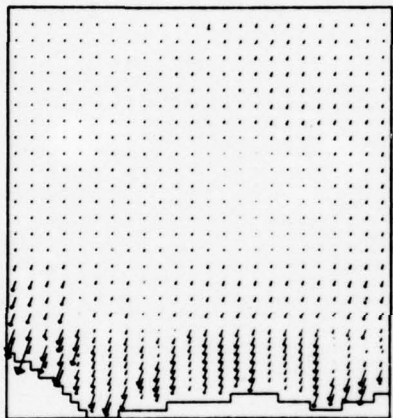
40-FT DEPTH
1 FT/SEC = (→)

WITH JETPORT

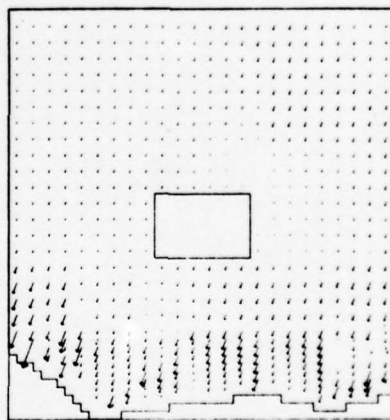
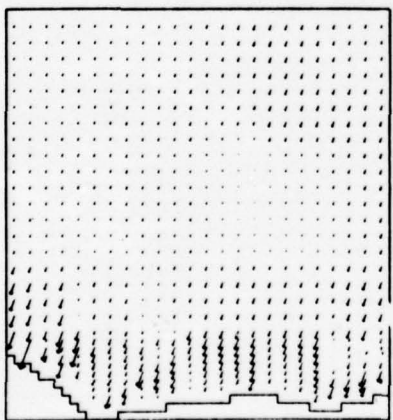
NEARSHORE HORIZONTAL VELOCITIES
AT 20-, 30-, AND 40-FT DEPTHS
WIND SPEED AND DIRECTION, 35 MPH N W



10-FT DEPTH
1 FT/SEC = (—) X 250



20-FT DEPTH
1 FT/SEC = (—) X 250

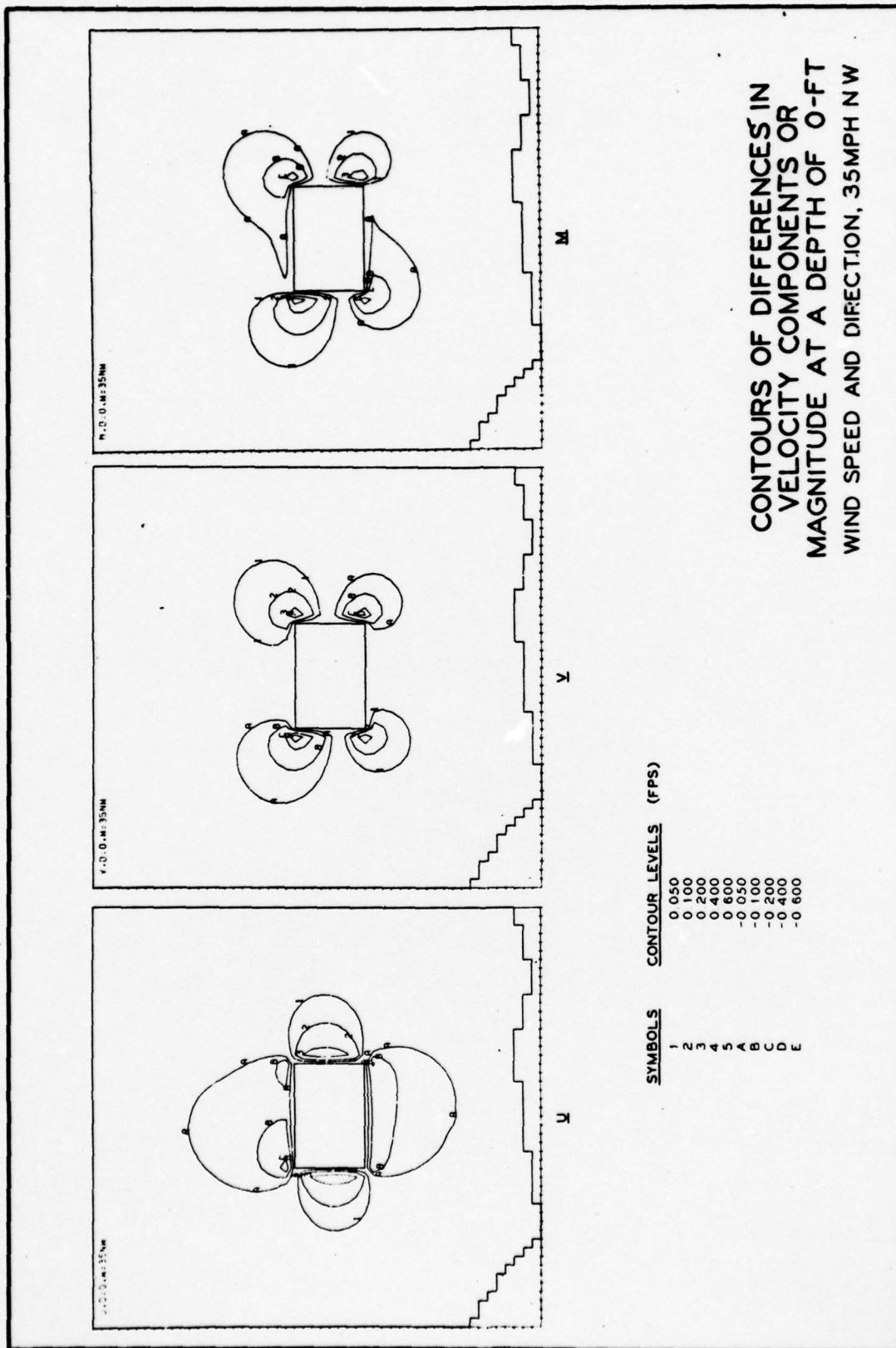


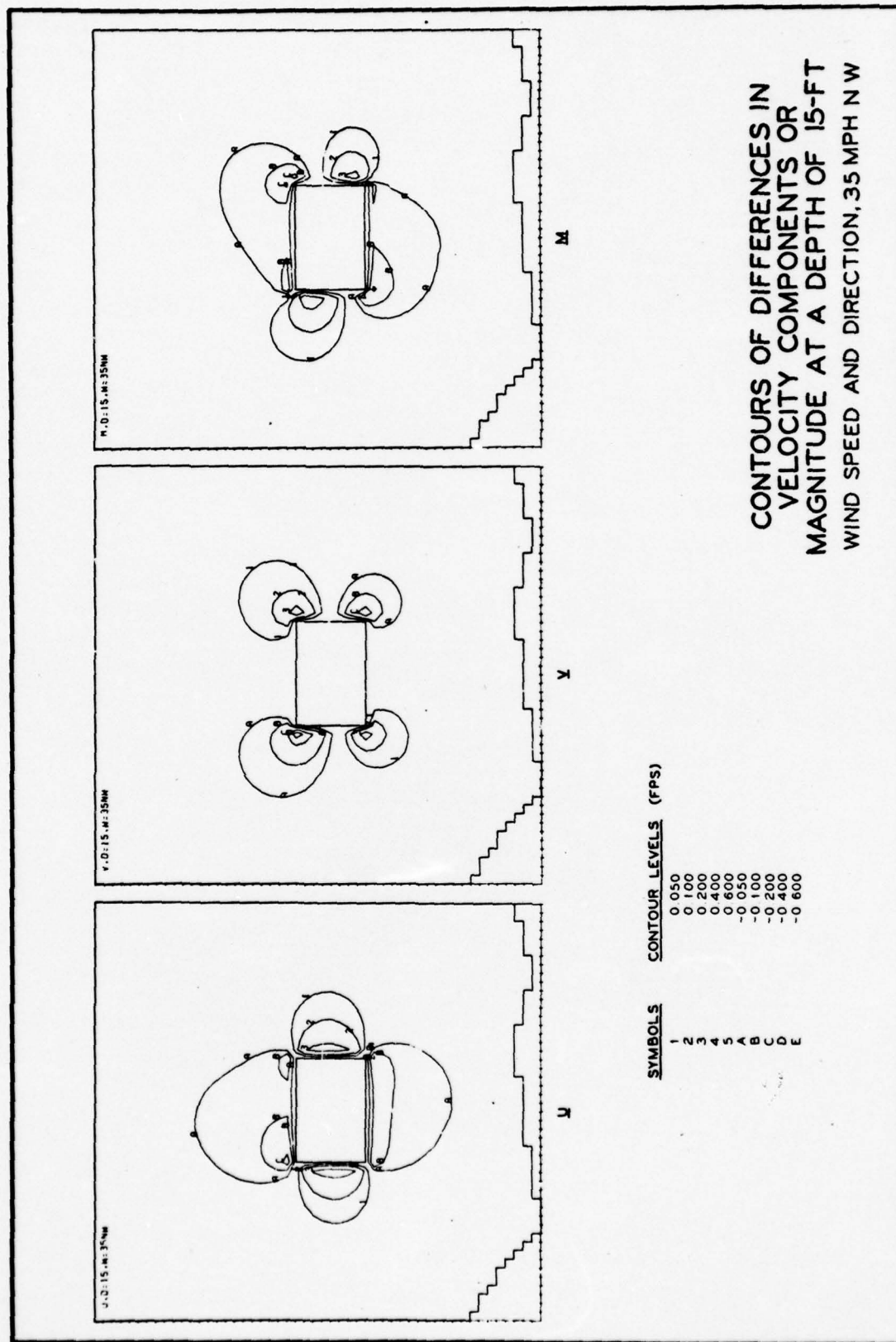
WITHOUT JETPORT

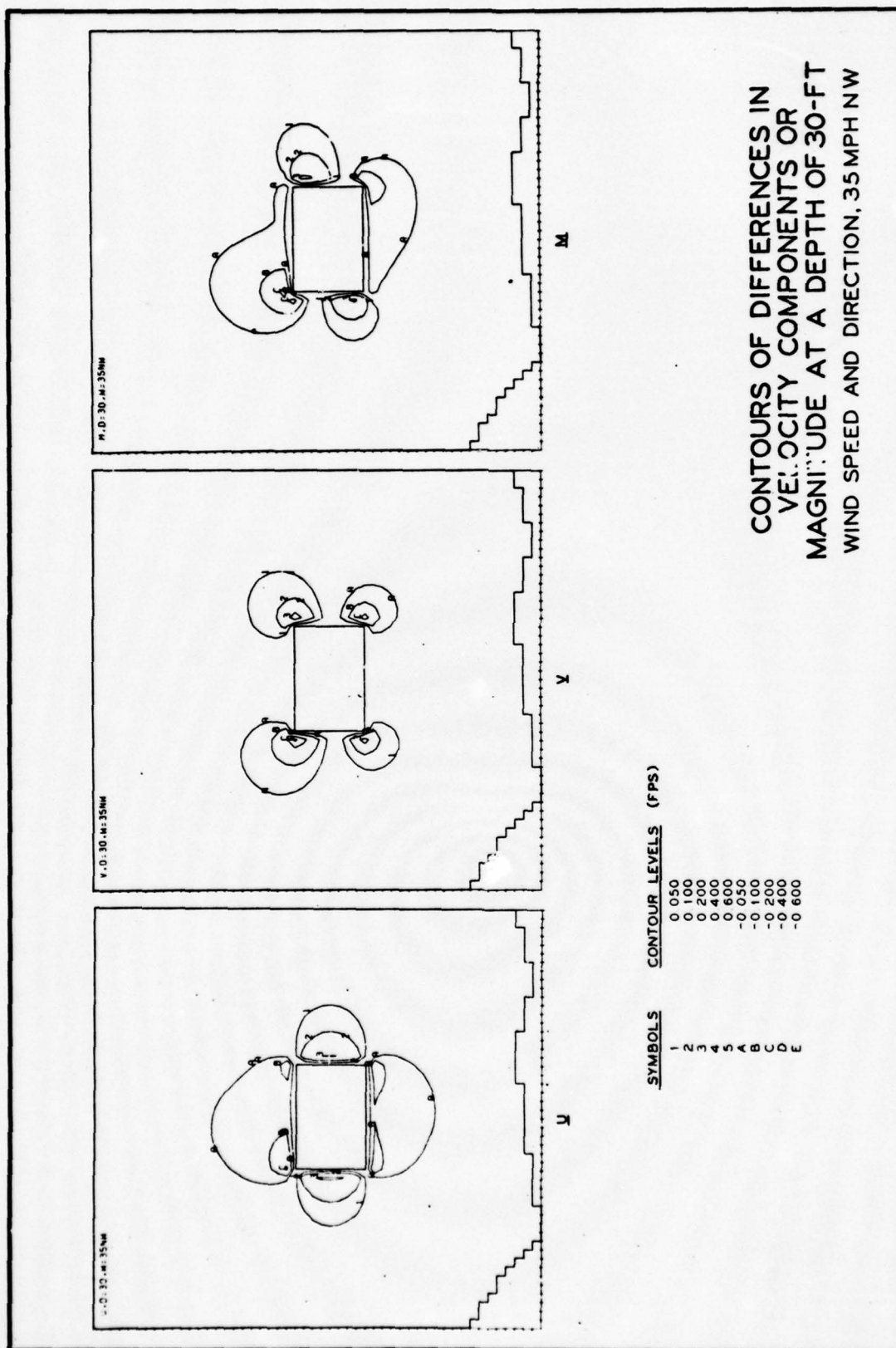
30-FT DEPTH
1 FT/SEC = (—) X 250

WITH JETPORT

NEARSHORE VERTICAL VELOCITIES
AT 10-, 20-, AND 30-FT DEPTHS
WIND SPEED AND DIRECTION, 35 MPH N W

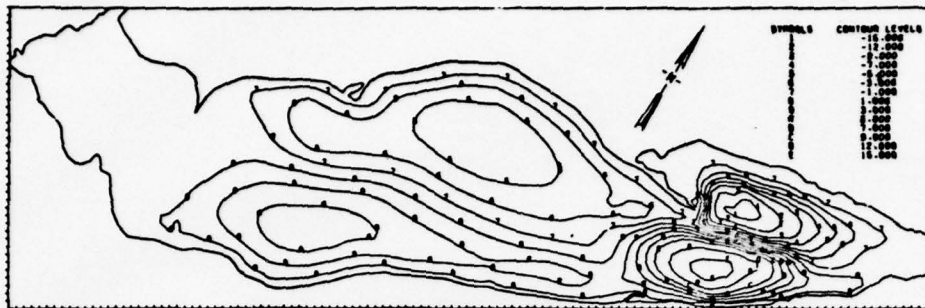




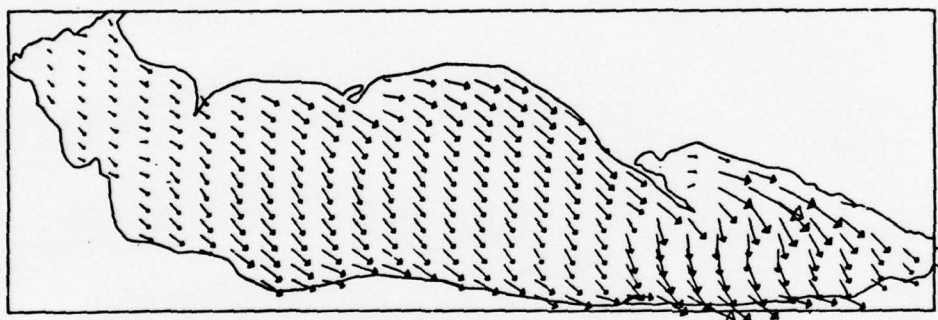


CONTOURS OF DIFFERENCES IN
VELOCITY COMPONENTS OR
MAGNITUDE AT A DEPTH OF 30-FT
WIND SPEED AND DIRECTION, 35 MPH NW

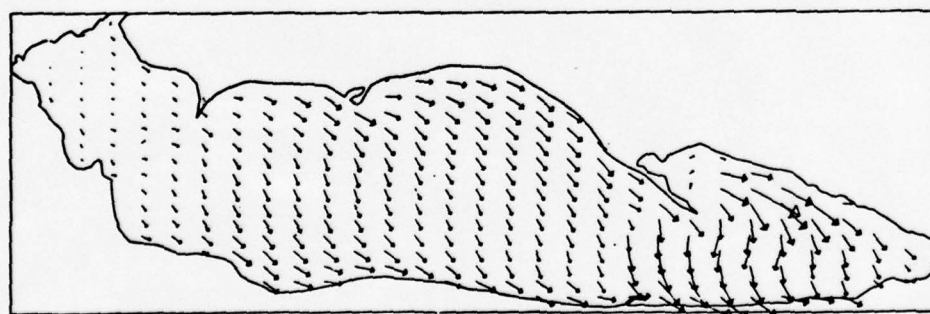
SYMBOLS	CONTOUR LEVELS (FPS)
1	0.050
2	0.100
3	0.200
4	0.400
5	0.600
A	-0.050
B	-0.100
C	-0.200
D	-0.400
E	-0.600



CONTOURS OF NON-DIMENSIONAL STREAM FUNCTION



0-FT DEPTH



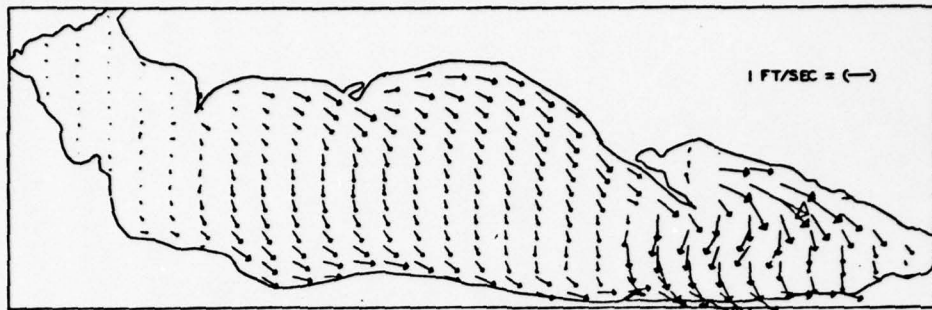
5-FT DEPTH

HORIZONTAL VELOCITIES

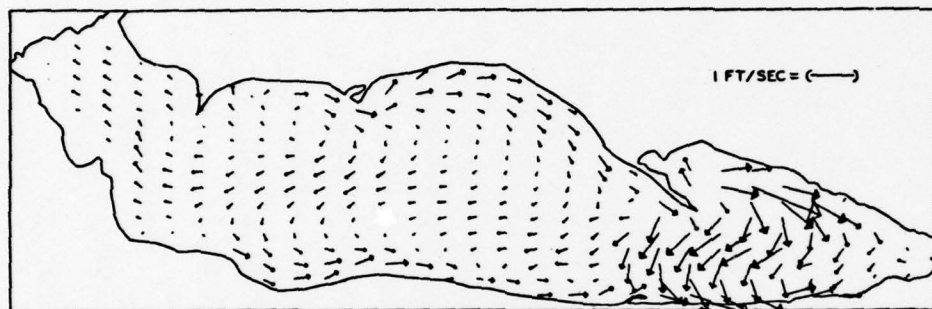
1 FT/SEC = (—)

STREAM FUNCTION
CONTOURS AND HORIZONTAL
VELOCITIES FOR LAKE ERIE

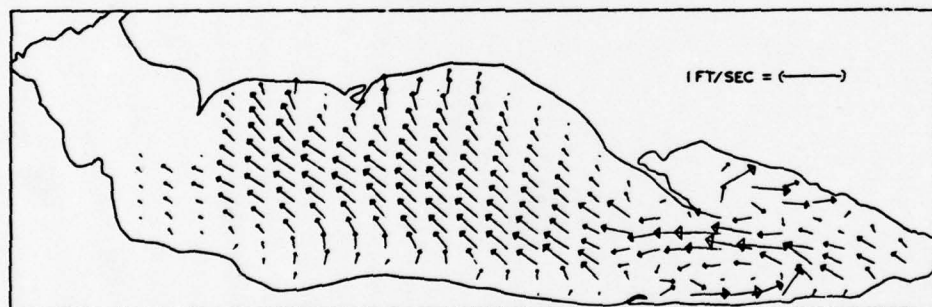
WIND SPEED AND
DIRECTION, 35MPH W



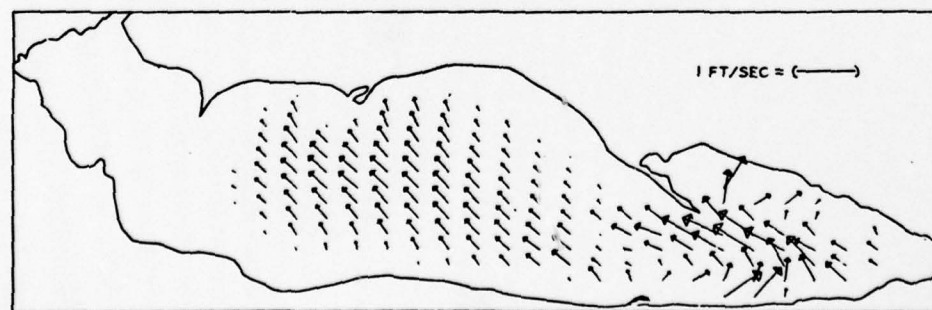
10-FT DEPTH



20-FT DEPTH

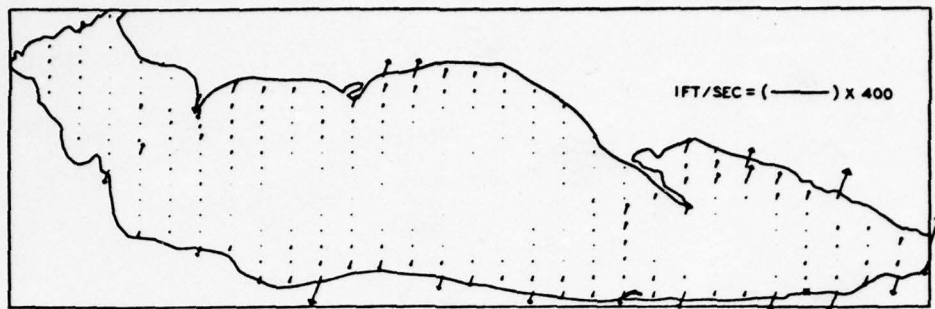


40-FT DEPTH

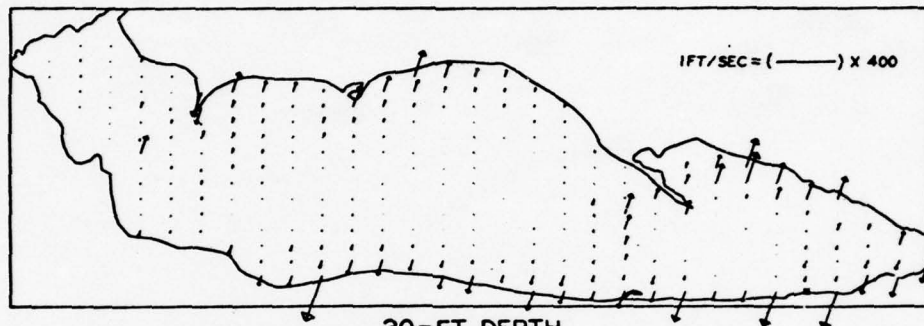


60-FT DEPTH

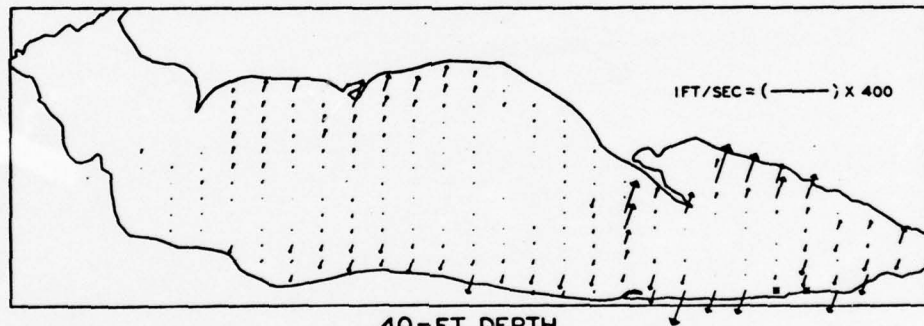
HORIZONTAL VELOCITIES AT
10-, 20-, 40-, AND 60-FT DEPTHS
WIND SPEED AND DIRECTION, 35MPH W



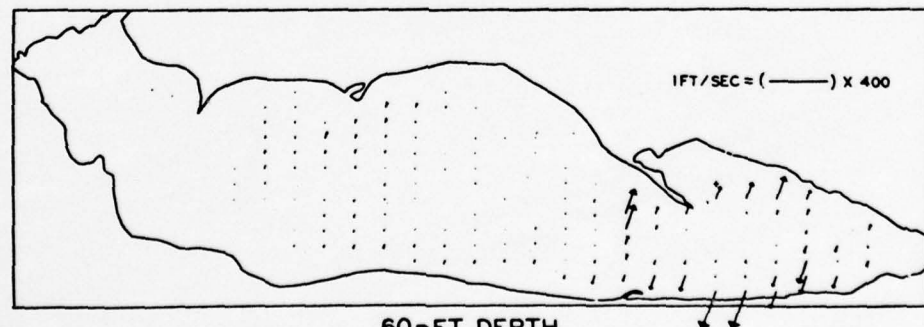
10-FT DEPTH



20-FT DEPTH

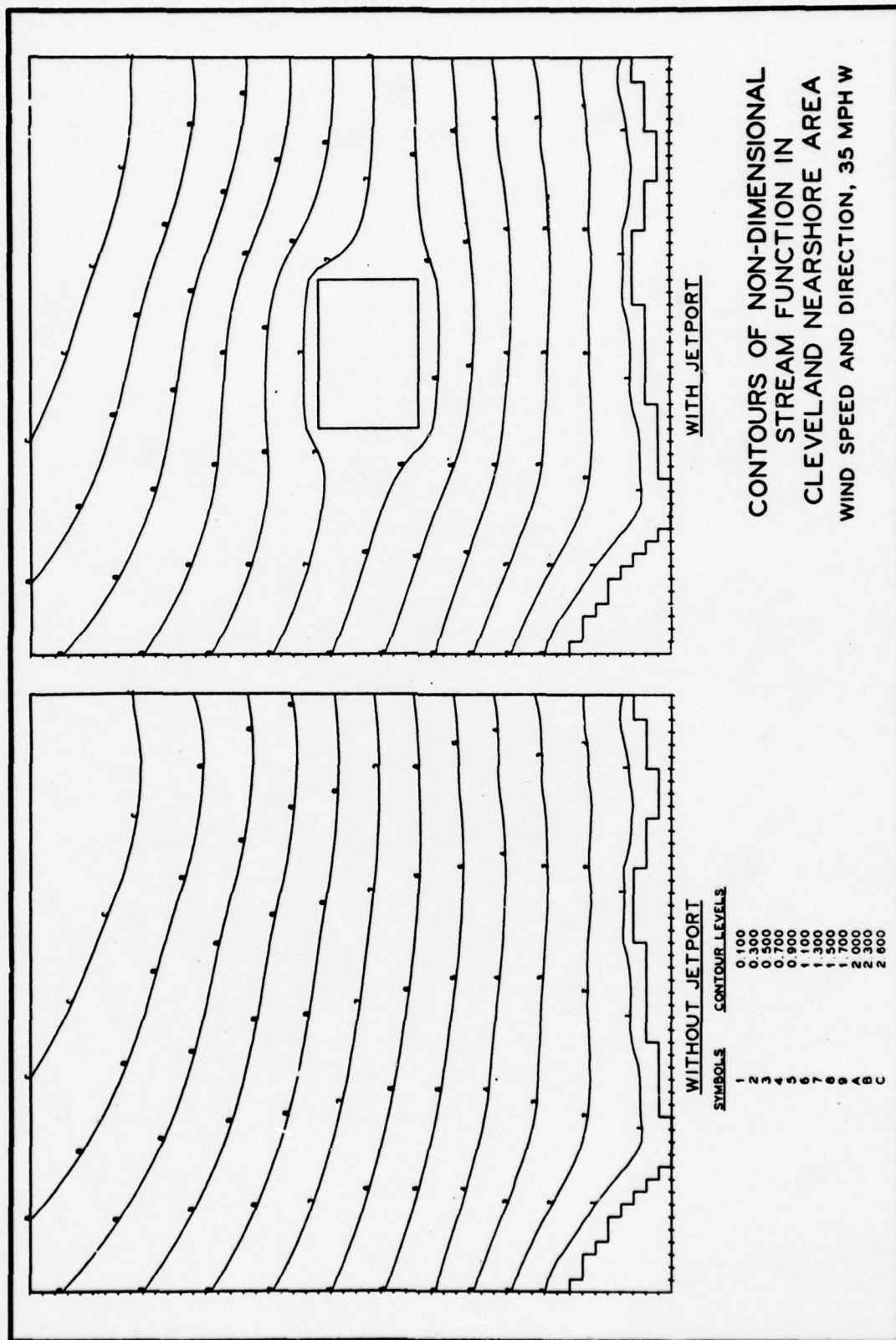


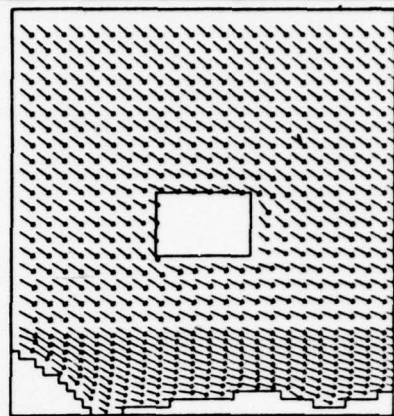
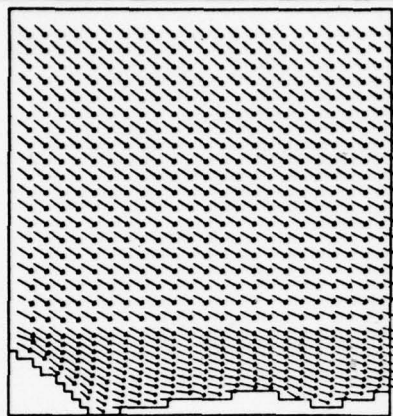
40-FT DEPTH



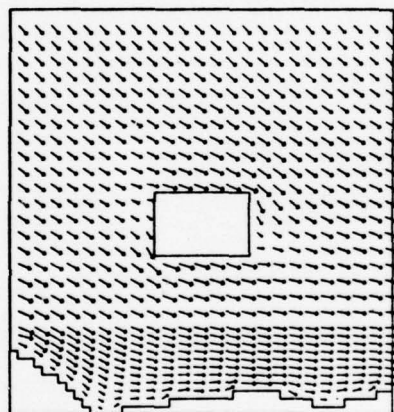
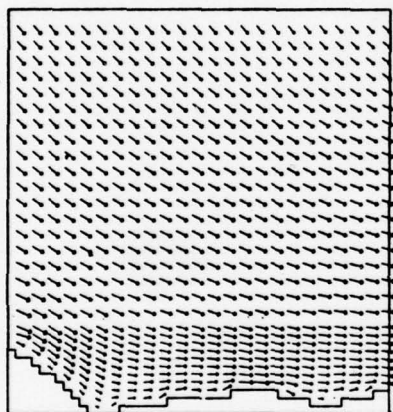
60-FT DEPTH

VERTICAL VELOCITIES AT
10-, 20-, 40-, AND 60-FT DEPTHS
WIND SPEED AND DIRECTION, 35MPH W

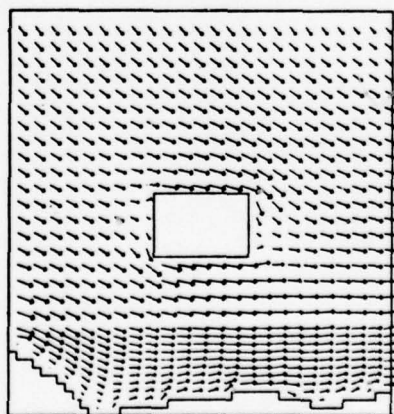
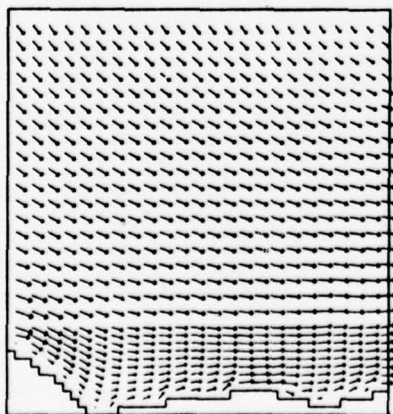




0-FT DEPTH
1 FT/SEC (-)



10-FT DEPTH
1 FT/SEC (-)



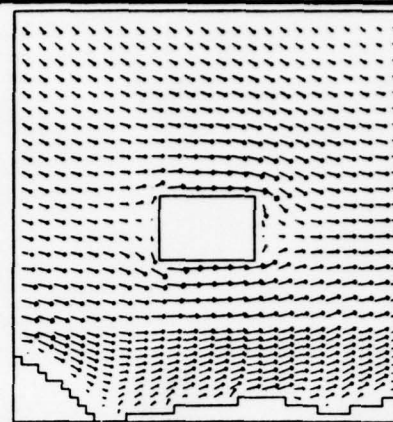
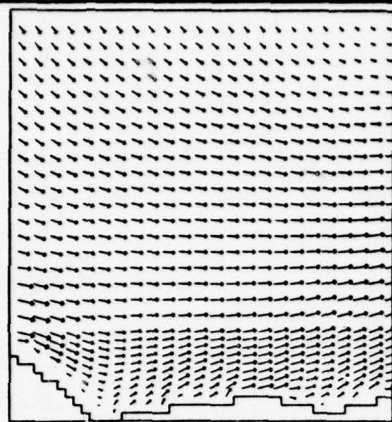
WITHOUT JETPORT

15-FT DEPTH
1 FT/SEC (-)

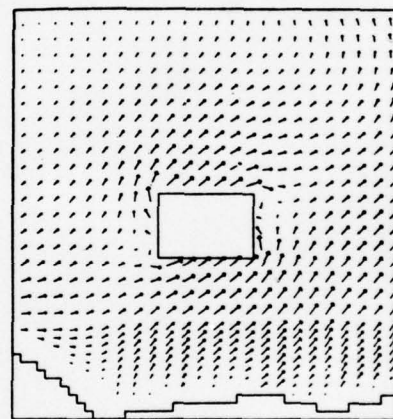
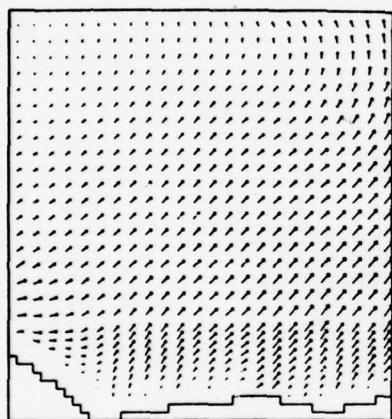
WITH JETPORT

NEARSHORE HORIZONTAL VELOCITIES AT 0-, 10-, AND 15-FT DEPTHS

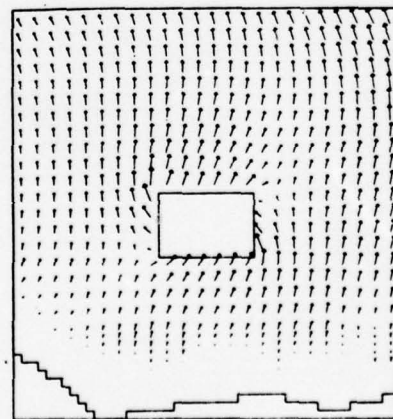
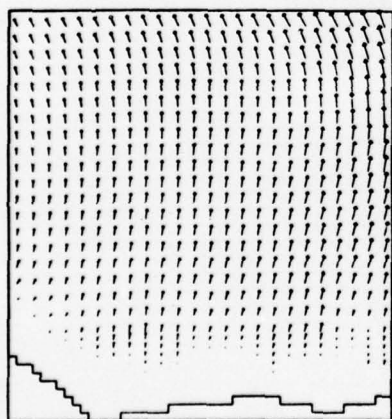
WIND SPEED AND DIRECTION, 35 MPH W



20-FT DEPTH
1 FT/SEC = (—→)



30-FT DEPTH
1 FT/SEC = (—→)



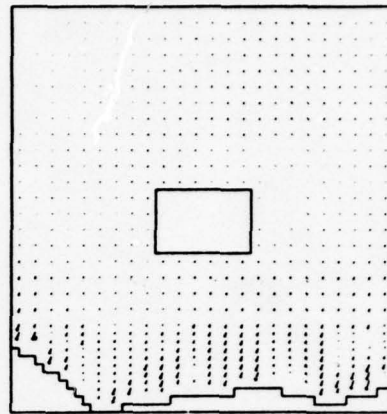
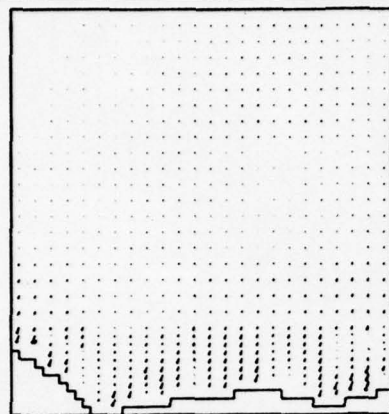
WITHOUT JETPORT

40-FT DEPTH
1 FT/SEC = (—→)

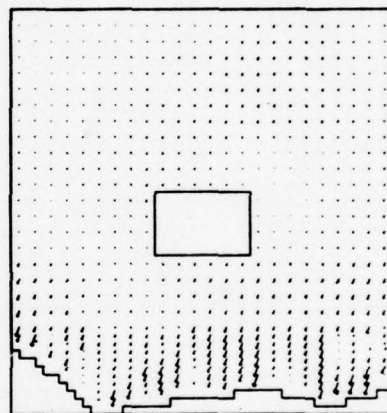
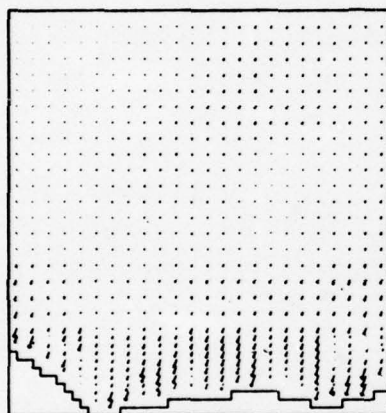
WITH JETPORT

NEARSHORE HORIZONTAL VELOCITIES
AT 20-, 30-, AND 40-FT DEPTHS

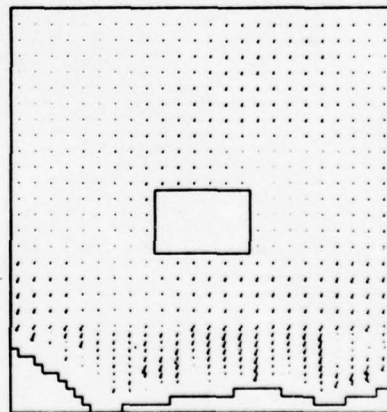
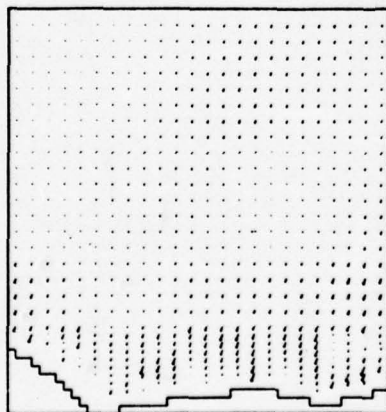
WIND SPEED AND DIRECTION, 35 MPH W



10-FT DEPTH
1 FT/SEC X 250



20-FT DEPTH
1 FT/SEC X 250

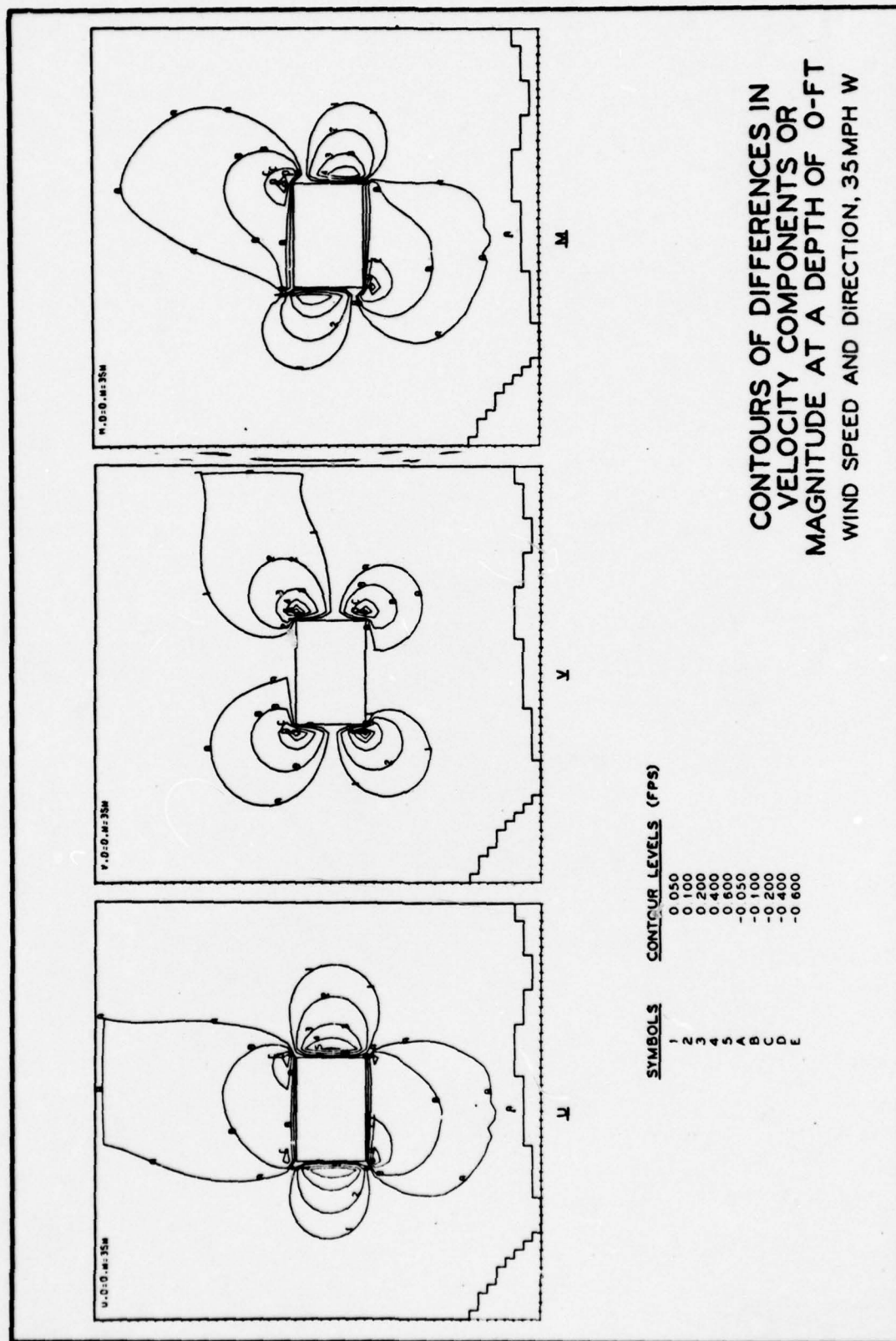


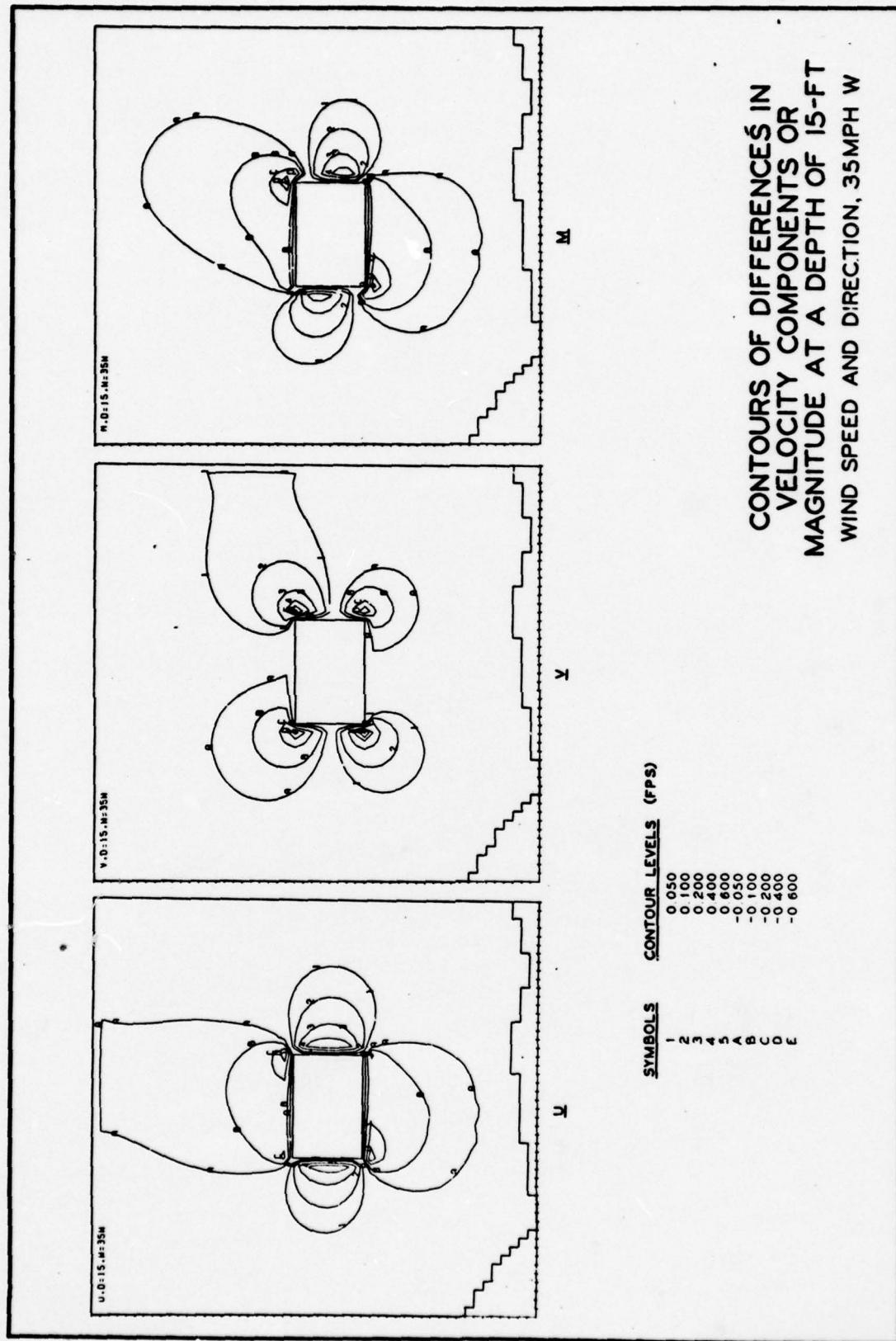
WITHOUT JETPORT

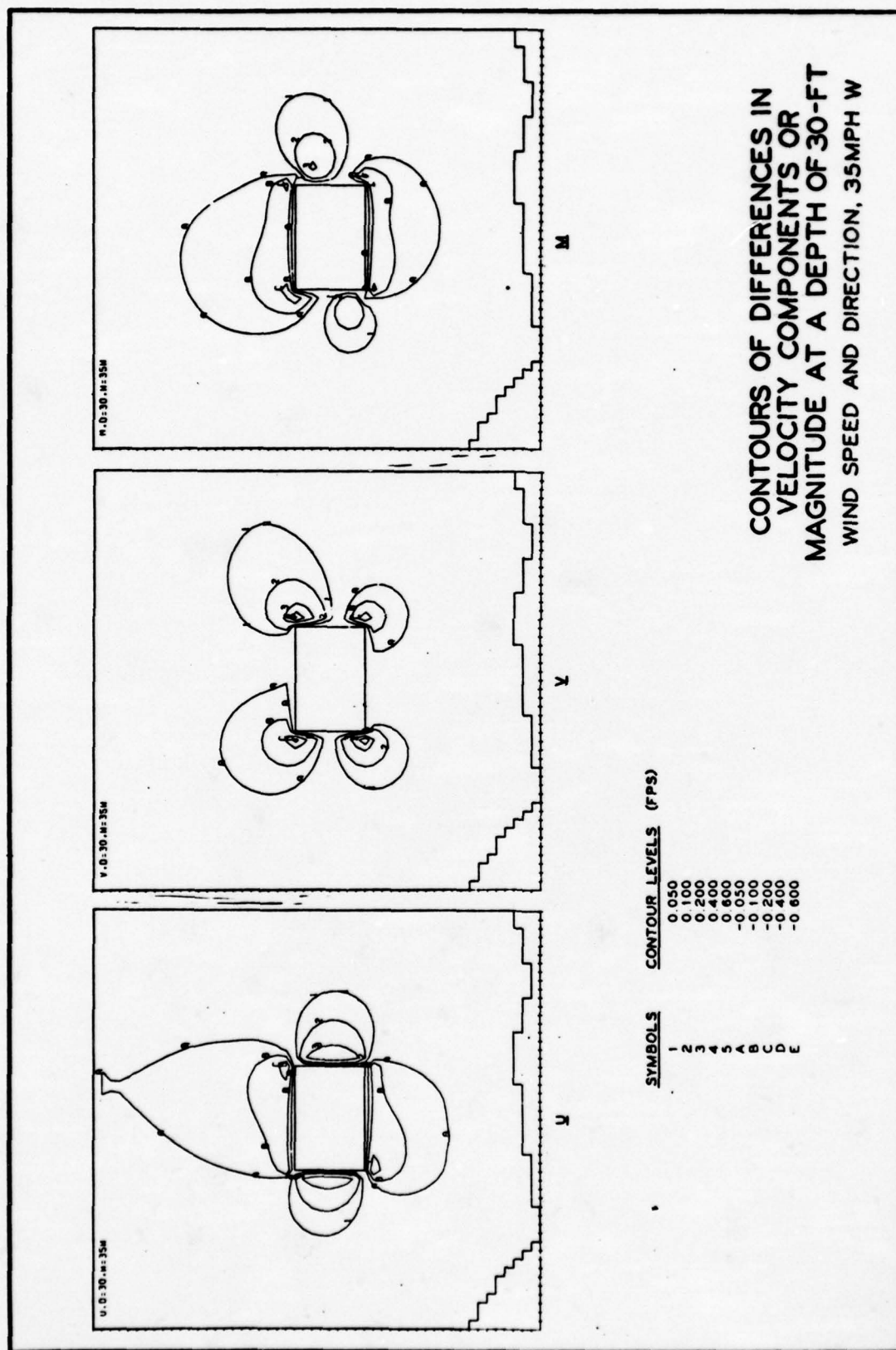
30-FT DEPTH
1 FT/SEC X 250

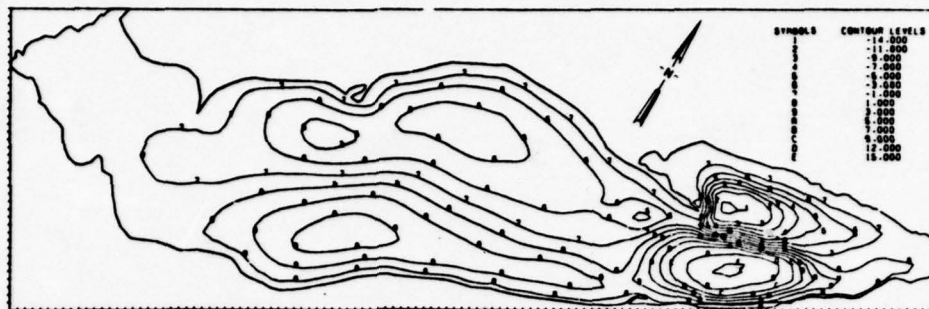
WITH JETPORT

NEARSHORE VERTICAL VELOCITIES
AT 10-, 20-, AND 30-FT DEPTHS
WIND SPEED AND DIRECTION, 35 MPH W

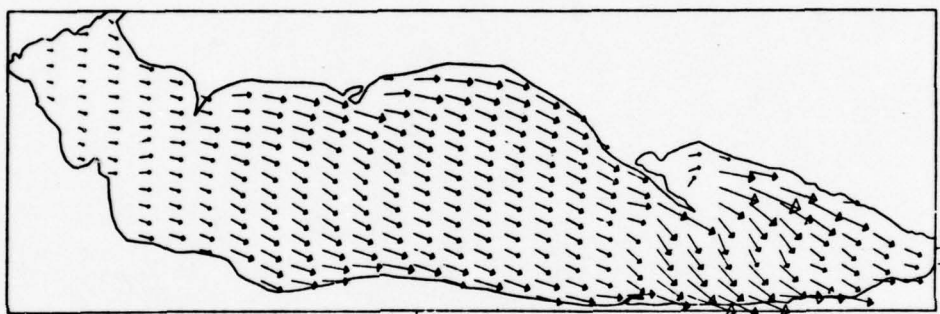




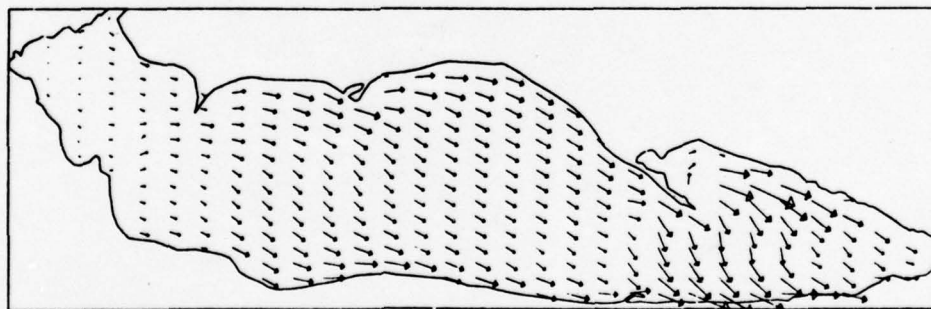




CONTOURS OF NON-DIMENSIONAL STREAM FUNCTION



0-FT DEPTH



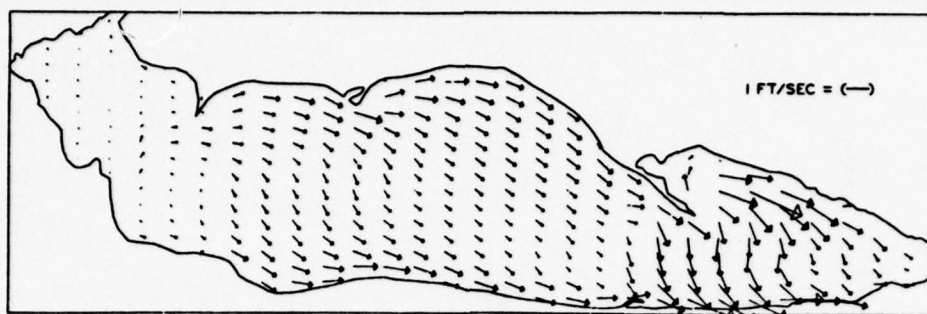
5-FT DEPTH

HORIZONTAL VELOCITIES

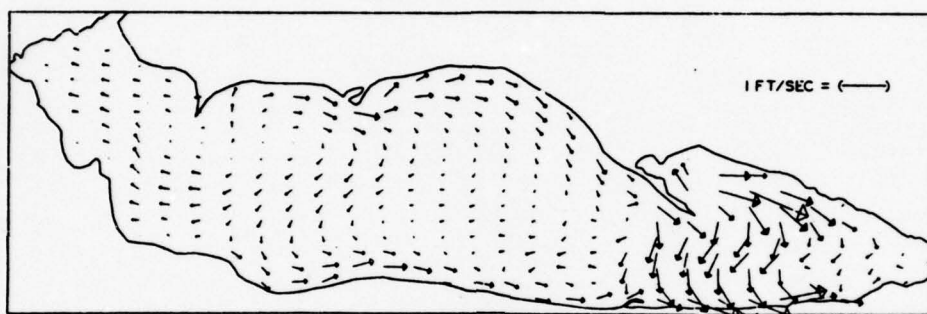
1 FT/SEC = (—)

**STREAM FUNCTION
CONTOURS AND HORIZONTAL
VELOCITIES FOR LAKE ERIE**

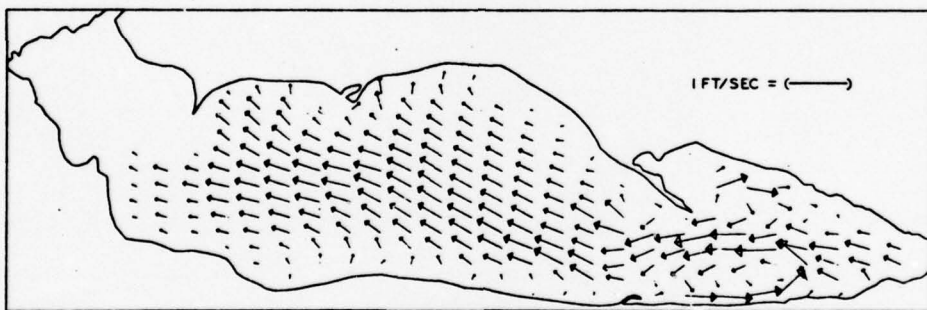
WIND SPEED AND
DIRECTION, 35MPH WSW



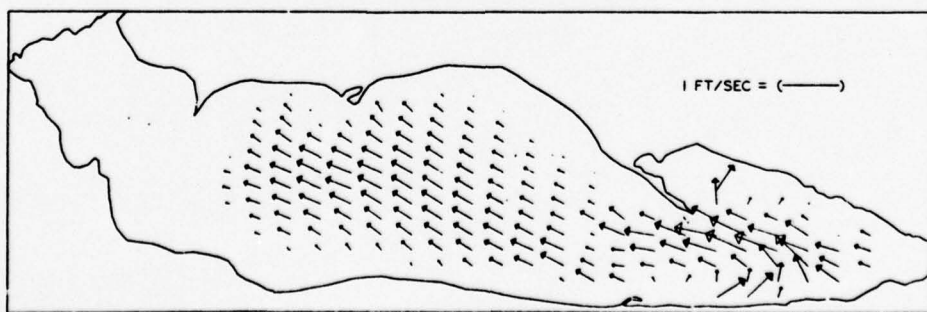
10-FT DEPTH



20-FT DEPTH

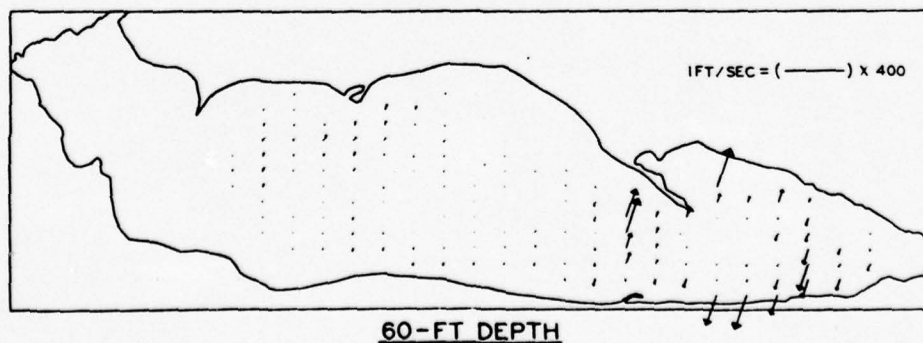
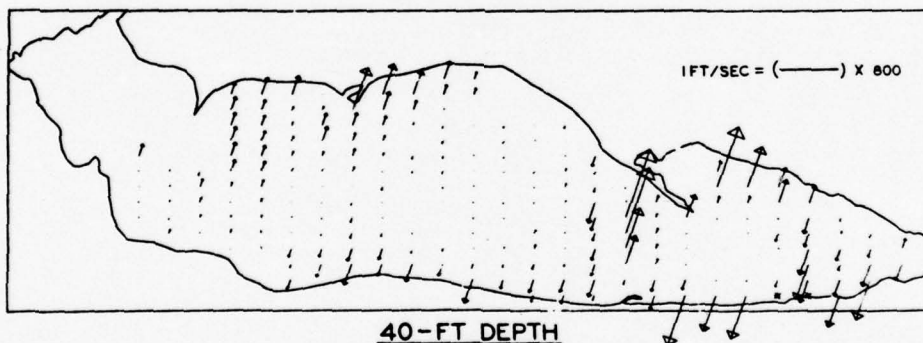
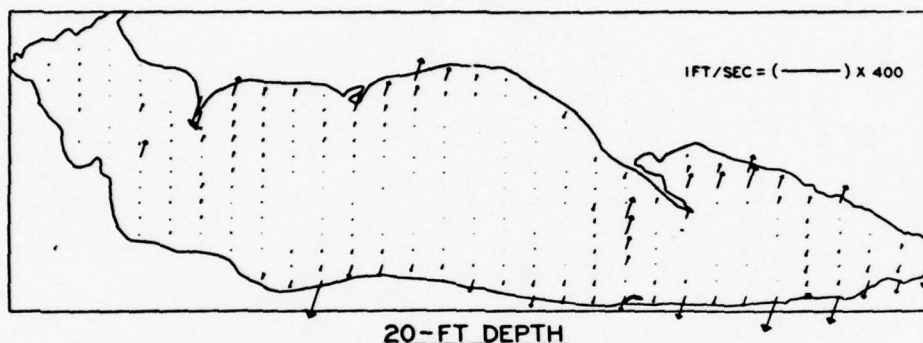
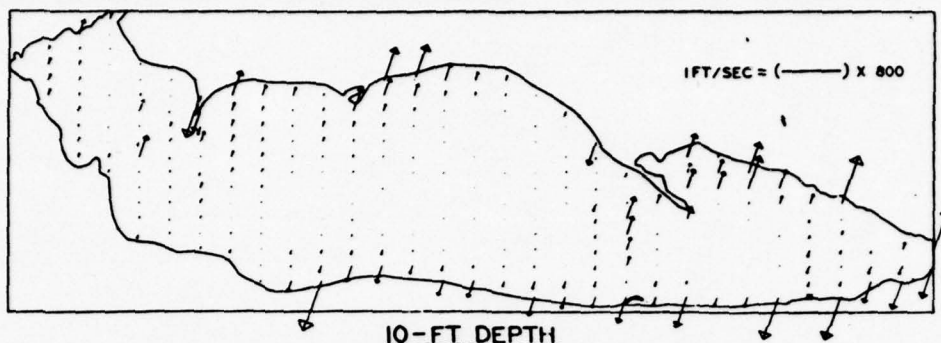


40-FT DEPTH

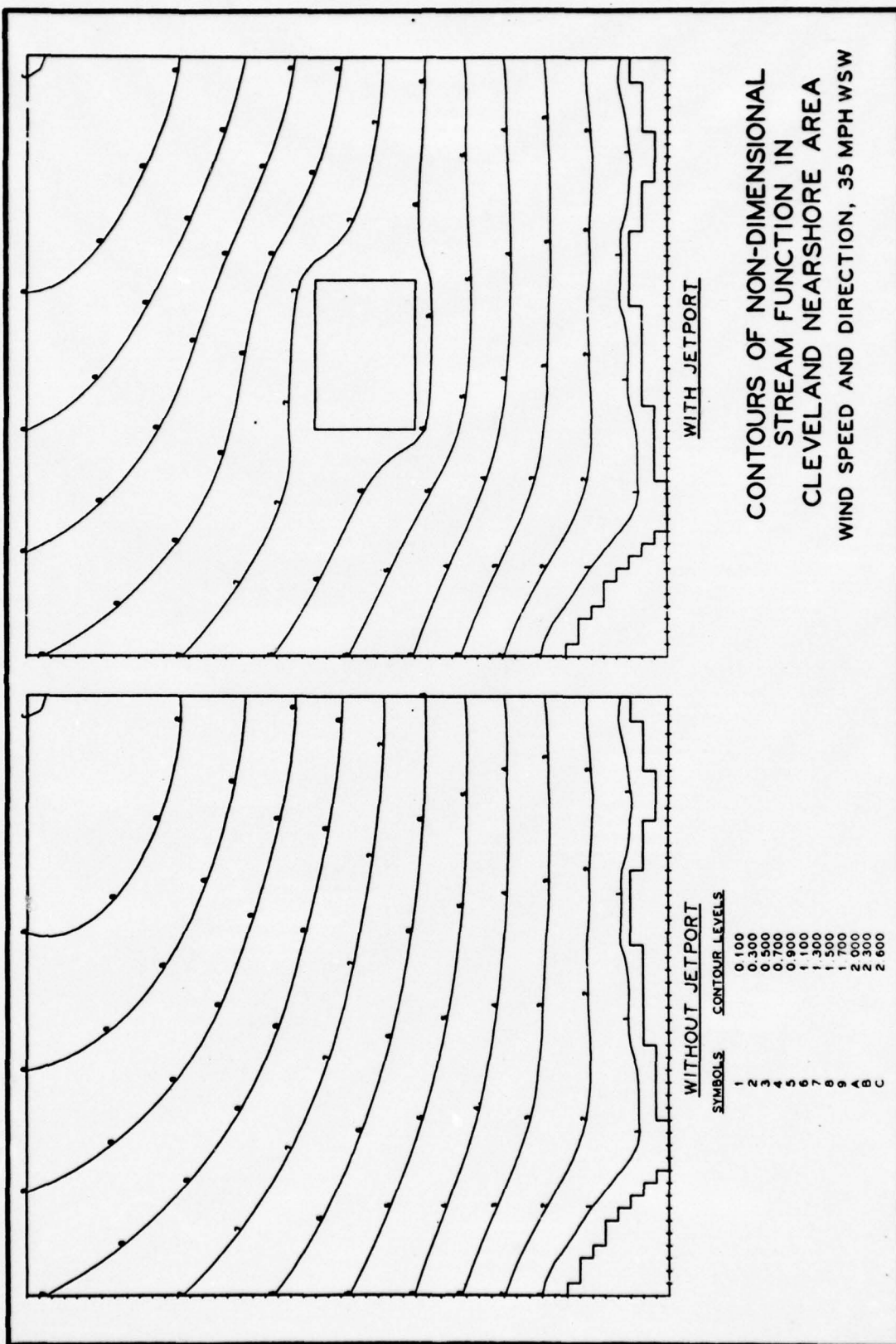


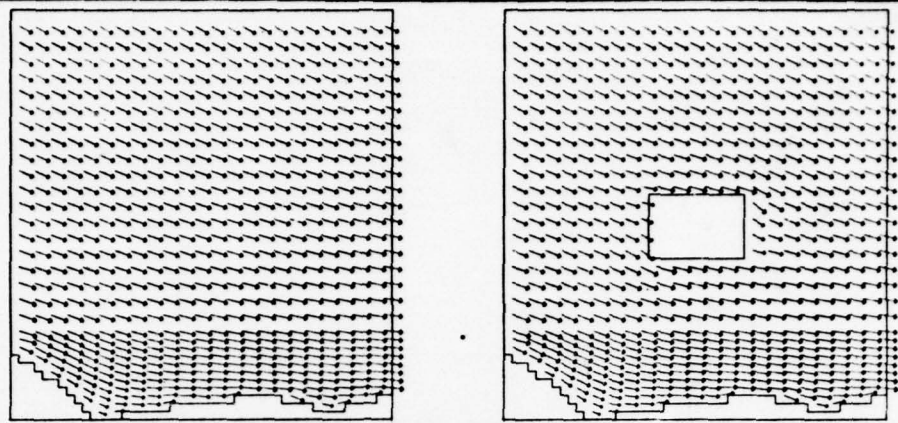
60-FT DEPTH

HORIZONTAL VELOCITIES AT
10-, 20-, 40-, AND 60-FT DEPTHS
WIND SPEED AND DIRECTION, 35 MPH WSW

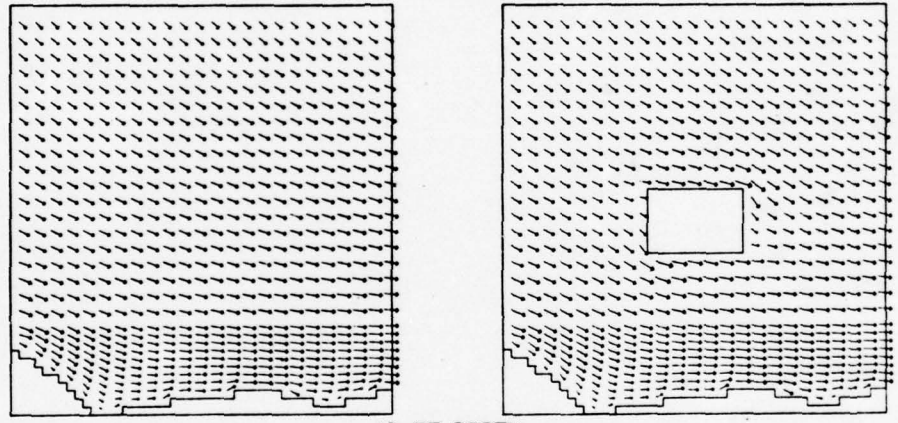


VERTICAL VELOCITIES AT
10-, 20-, 40-, AND 60-FT DEPTHS
WIND SPEED AND DIRECTION, 35MPH WSW

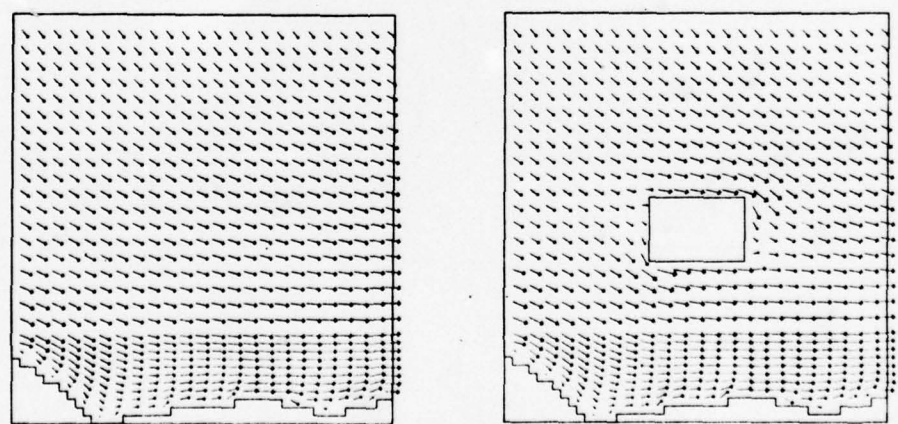




0-FT DEPTH
1 FT/SEC = (—)



10-FT DEPTH
1 FT/SEC = (—)

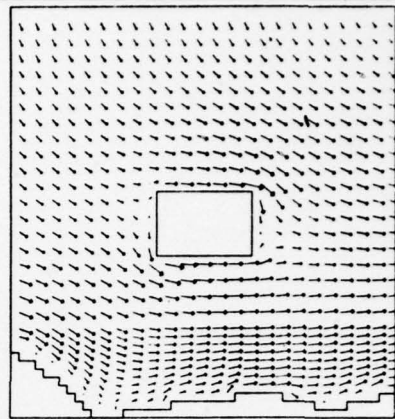
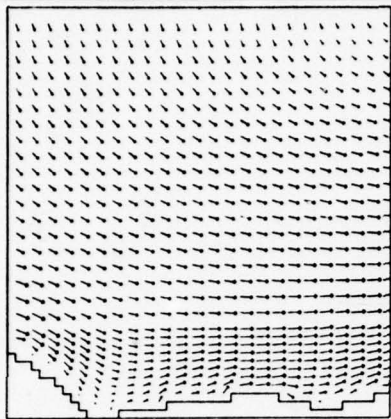


WITHOUT JETPORT

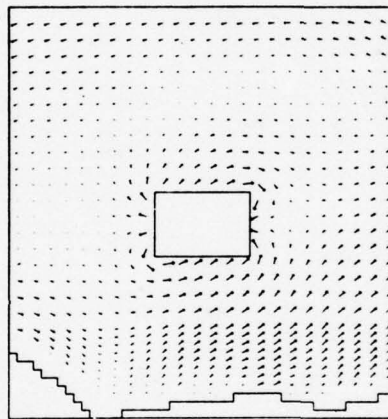
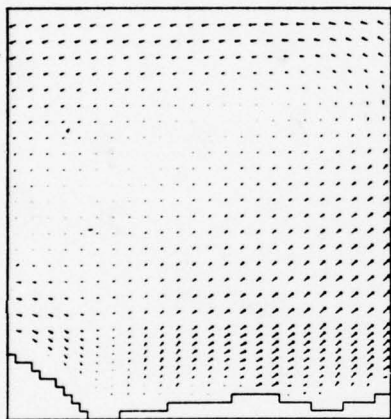
15-FT DEPTH
1 FT/SEC = (—)

WITH JETPORT

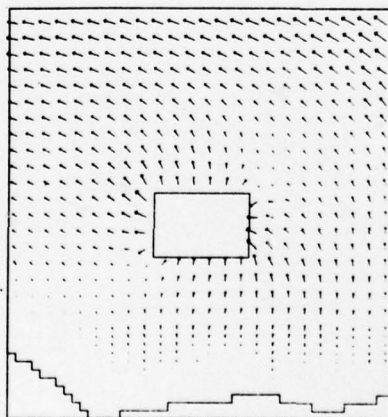
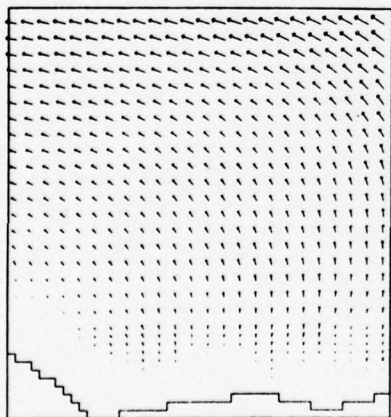
NEARSHORE HORIZONTAL VELOCITIES
AT 0-, 10-, AND 15-FT DEPTHS
WIND SPEED AND DIRECTION, 35 MPH WSW



20-FT DEPTH
1 FT/SEC = (→)



30-FT DEPTH
1 FT/SEC = (→)



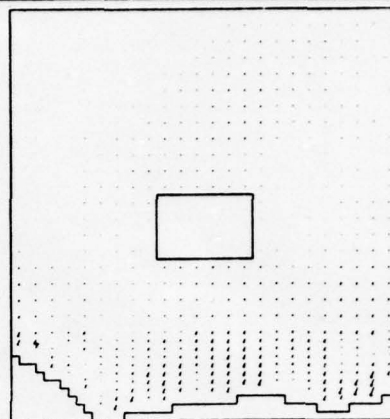
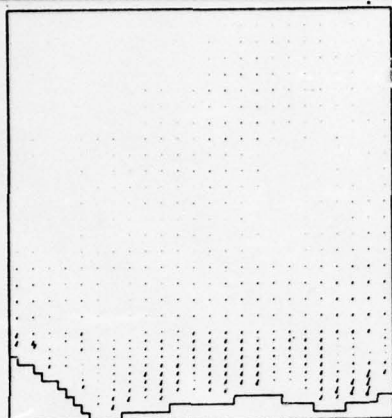
WITHOUT JETPORT

40-FT DEPTH
1 FT/SEC = (→)

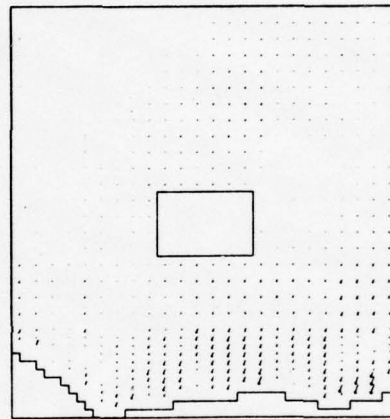
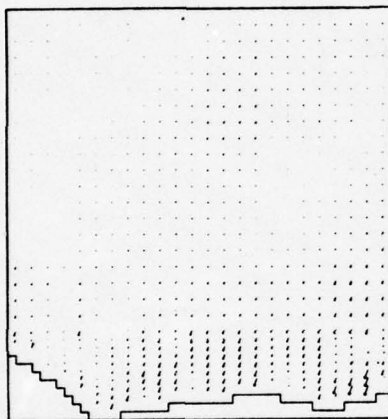
WITH JETPORT

NEARSHORE HORIZONTAL VELOCITIES AT 20-, 30-, AND 40-FT DEPTHS

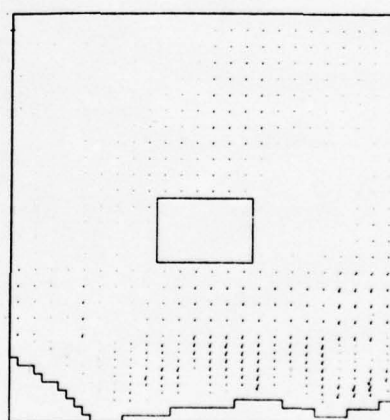
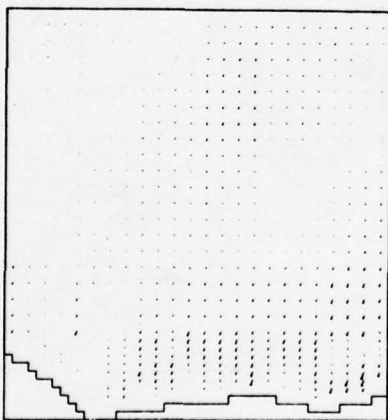
WIND SPEED AND DIRECTION, 35 MPH WSW



10-FT DEPTH
1 FT/SEC = (—) X 250



20-FT DEPTH
1 FT/SEC = (—) X 250

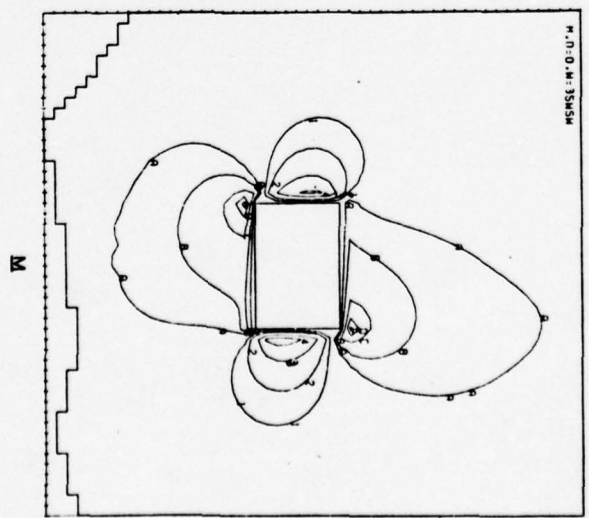
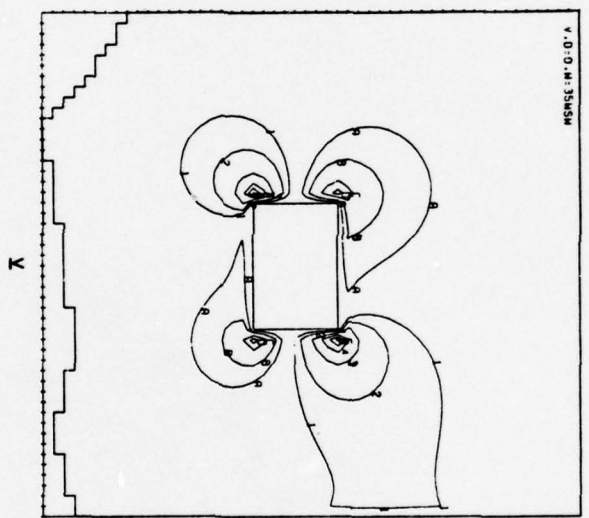
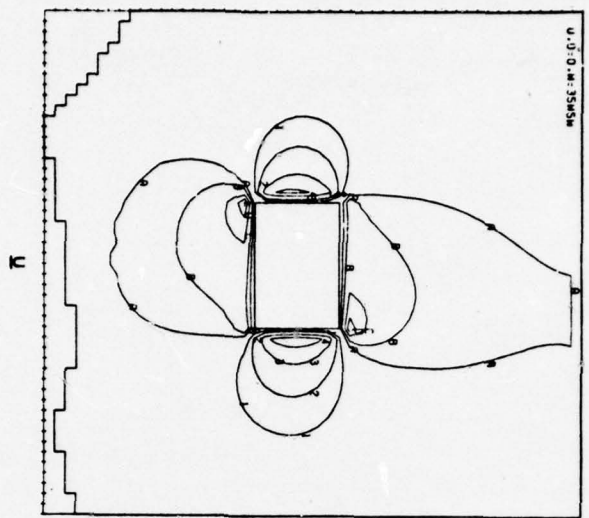


WITHOUT JETPORT

30-FT DEPTH
1 FT/SEC = (—) X 250

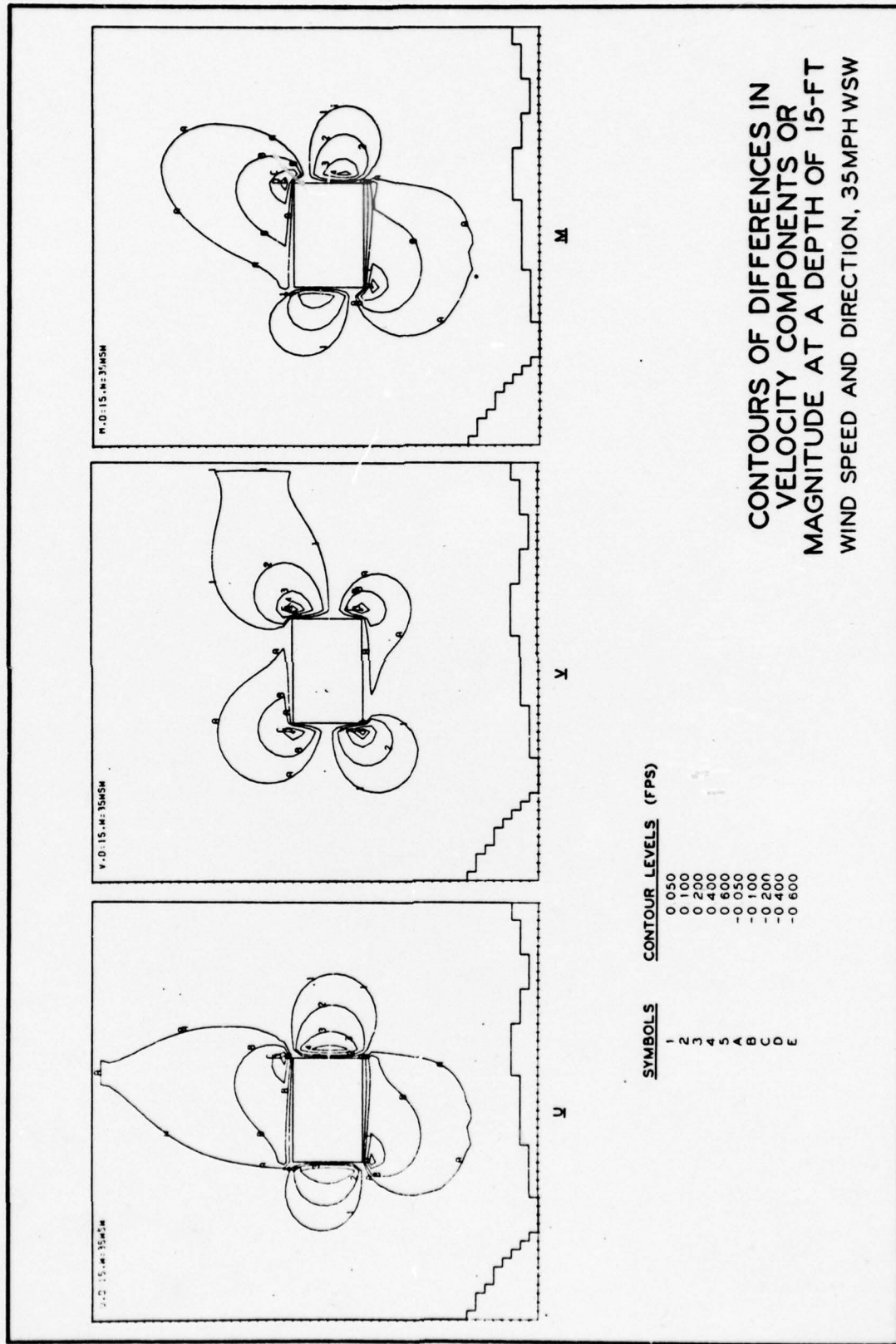
WITH JETPORT

NEARSHORE VERTICAL VELOCITIES
AT 10-, 20-, AND 30-FT DEPTHS
WIND SPEED AND DIRECTION, 35 MPH W S W



SYMBOLS	CONTOUR LEVELS (FPS)
1	0.050
2	0.100
3	0.200
4	0.400
5	0.600
A	0.800
B	1.000
C	2.000
D	4.000
E	6.000

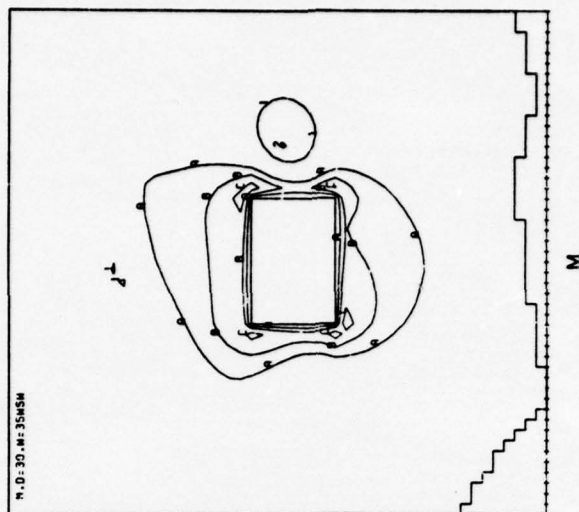
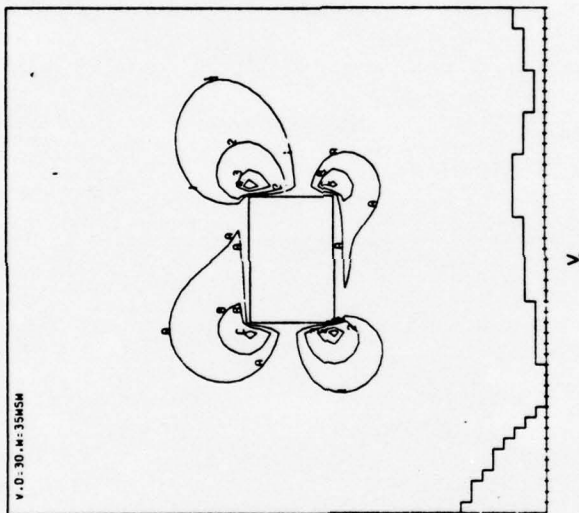
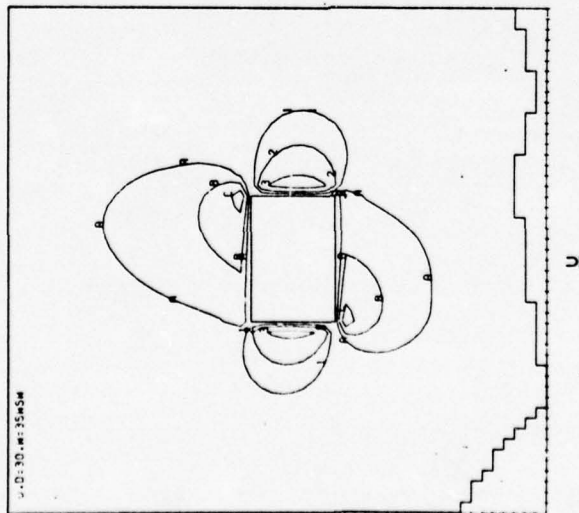
CONTOURS OF DIFFERENCES IN
VELOCITY COMPONENTS OR
MAGNITUDE AT A DEPTH OF 0-FT
WIND SPEED AND DIRECTION, 35MPHWSW

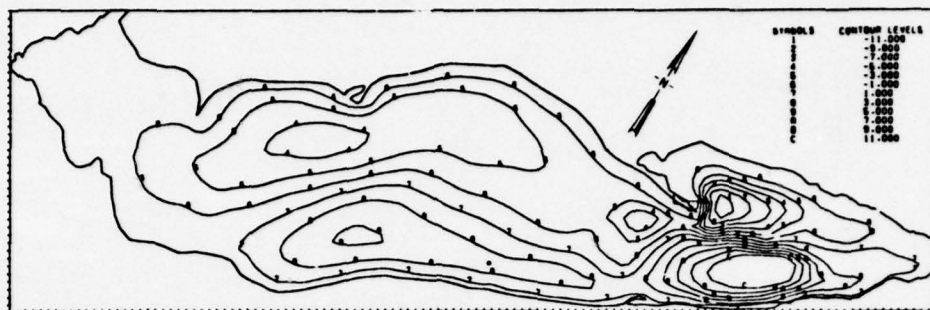


CONTOURS OF DIFFERENCES IN
VELOCITY COMPONENTS OR
MAGNITUDE AT A DEPTH OF 15-FT
WIND SPEED AND DIRECTION, 35MPH WSW

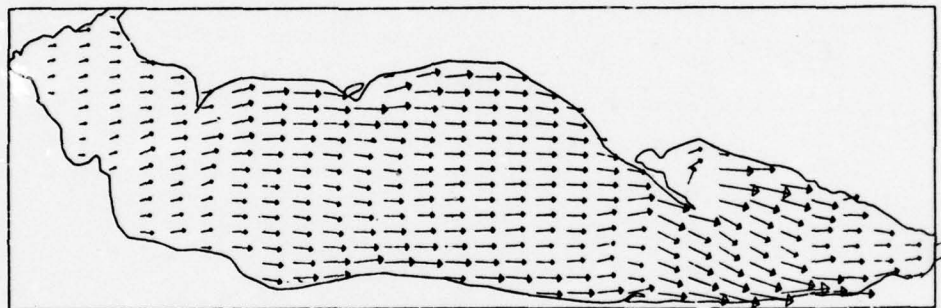
CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE AT A DEPTH OF 30-FT WIND SPEED AND DIRECTION, 35 MPH WSW

SYMBOLS	CONTOUR LEVELS (FPS)
1	0 050
2	0 100
3	0 200
4	0 400
5	0 600
A	-0 050
B	-0 100
C	-0 200
D	-0 400
E	-0 600

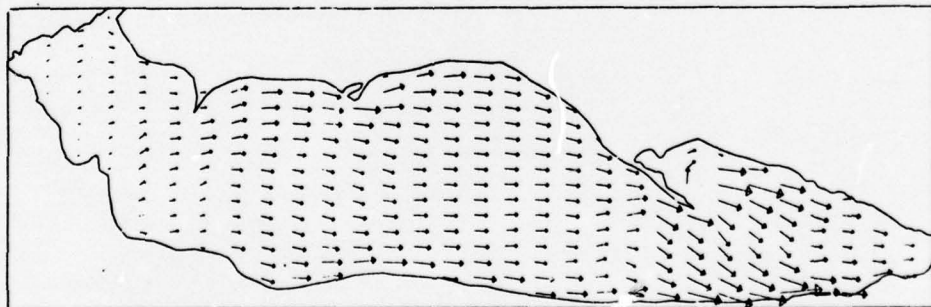




CONTOURS OF NON-DIMENSIONAL STREAM FUNCTION



0-FT DEPTH



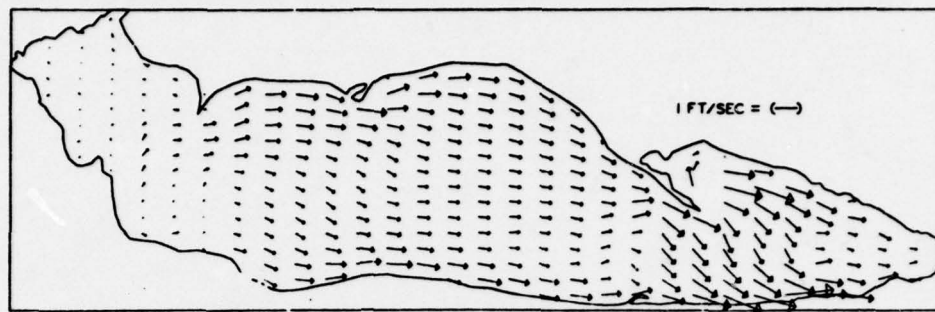
5-FT DEPTH

HORIZONTAL VELOCITIES

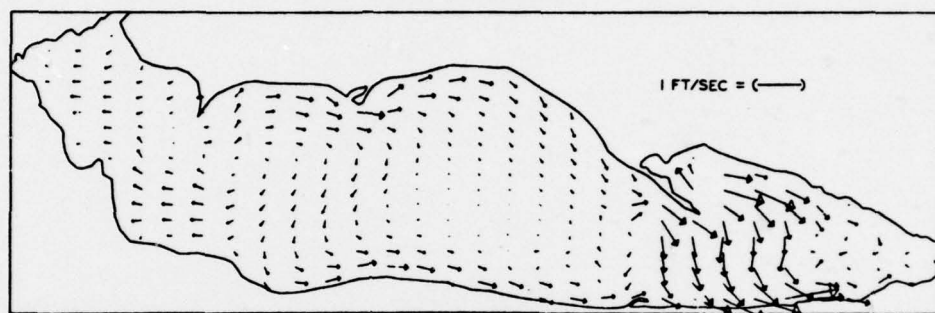
1 FT/SEC = (—)

STREAM FUNCTION
CONTOURS AND HORIZONTAL
VELOCITIES FOR LAKE ERIE

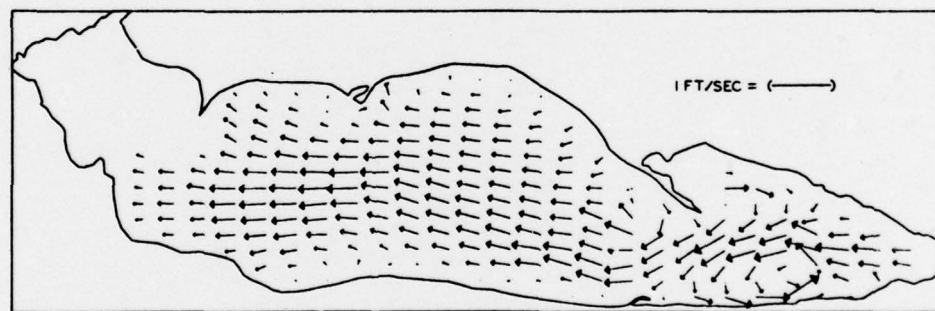
WIND SPEED AND
DIRECTION, 35 MPH SW



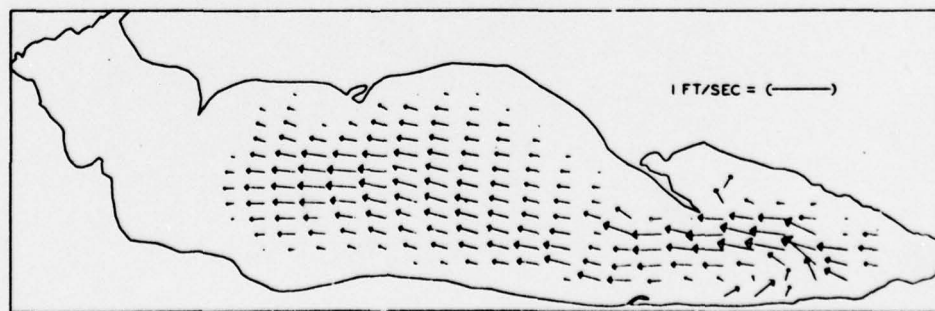
10-FT DEPTH



20-FT DEPTH

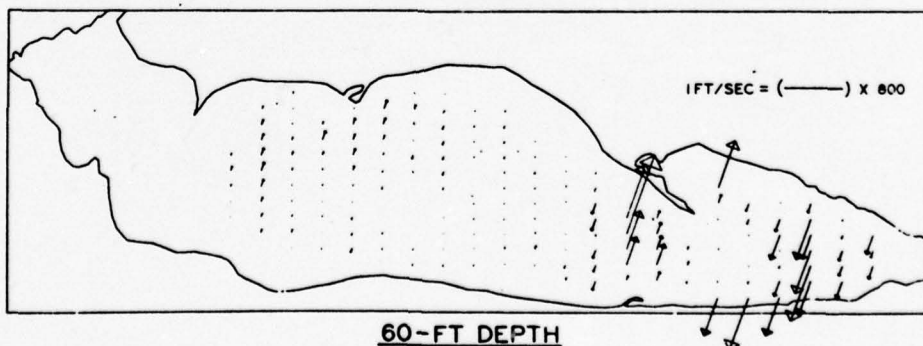
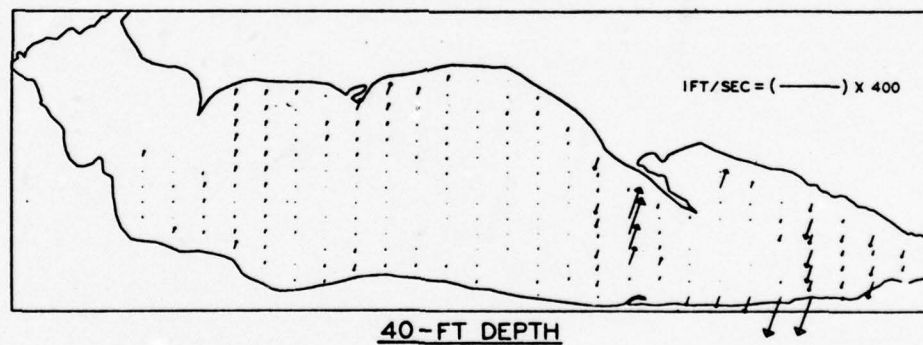
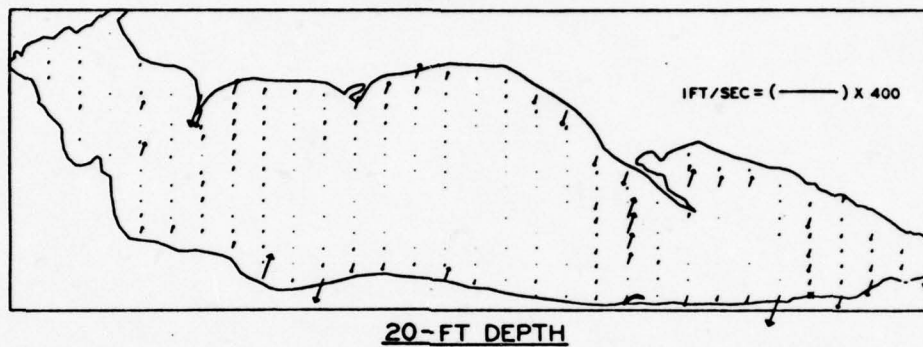
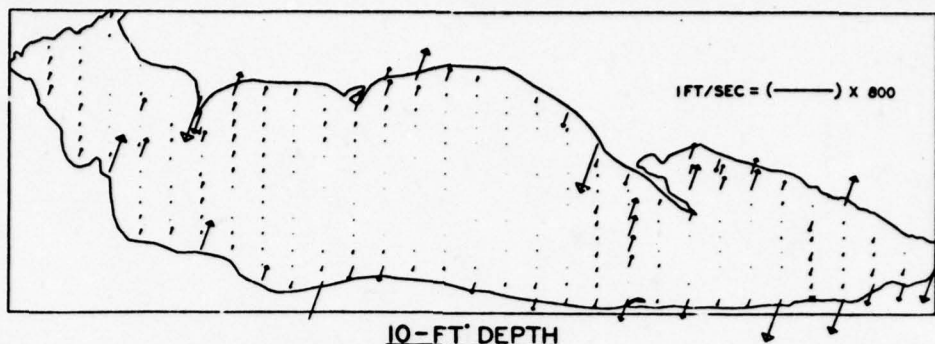


40-FT DEPTH

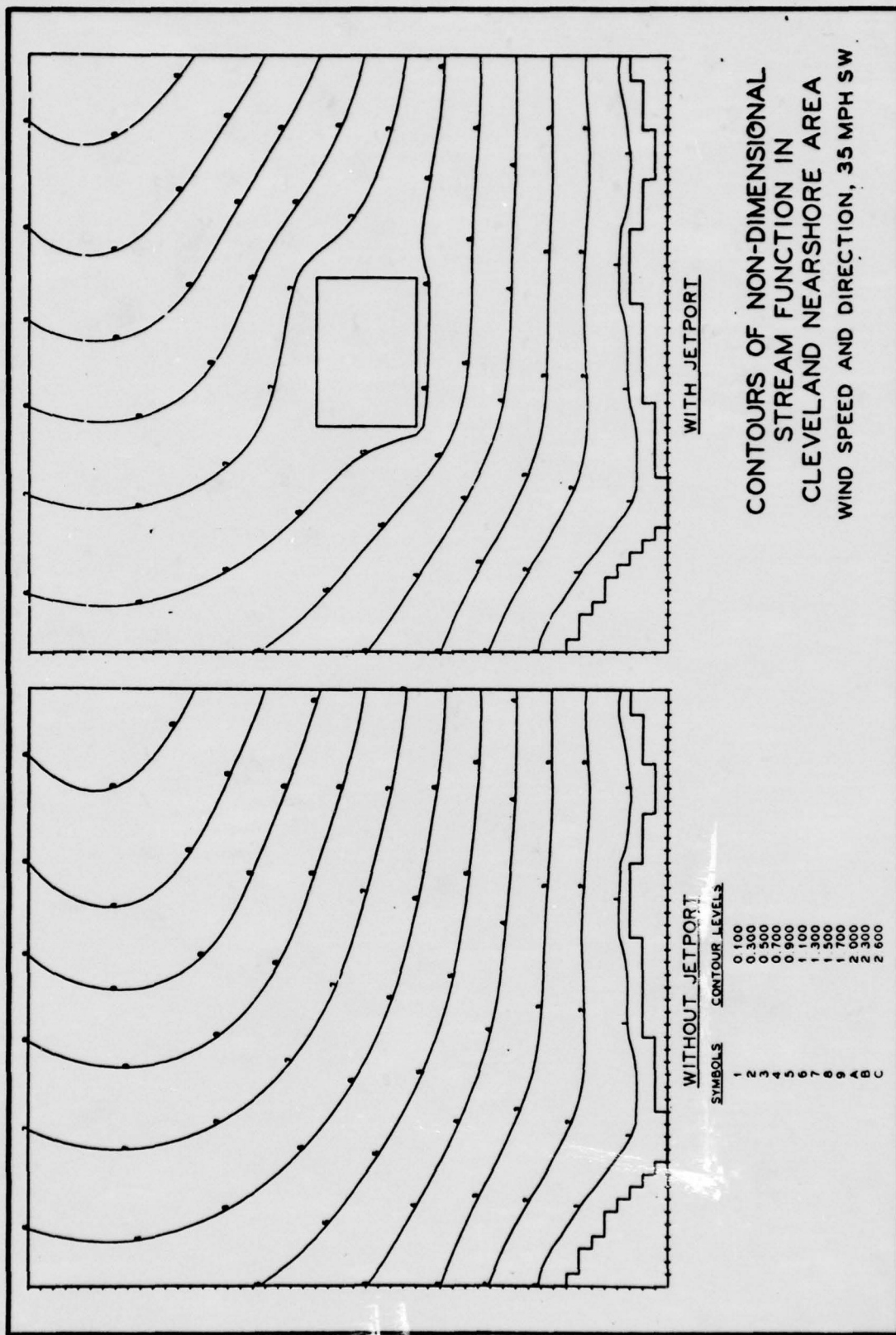


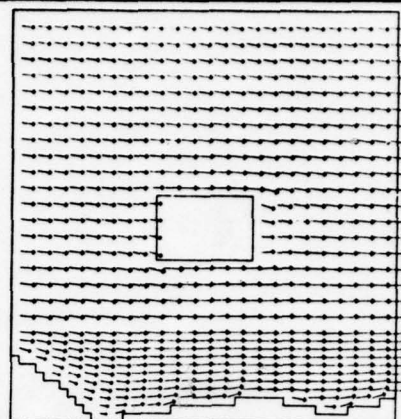
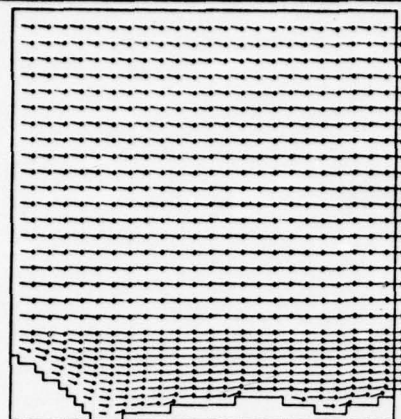
60-FT DEPTH

HORIZONTAL VELOCITIES AT
10-, 20-, 40-, AND 60-FT DEPTHS
WIND SPEED AND DIRECTION, 35 MPH SW

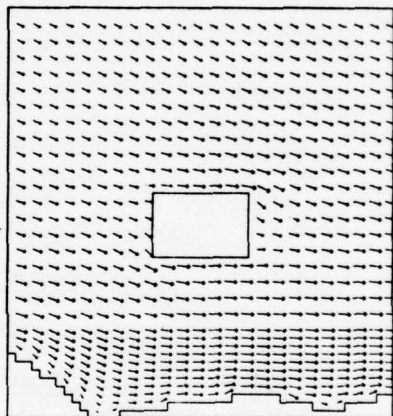
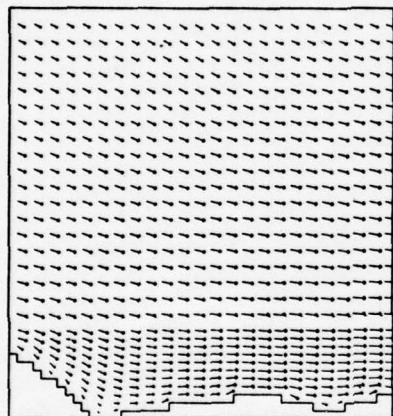


VERTICAL VELOCITIES AT
10-, 20-, 40-, AND 60-FT DEPTHS
WIND SPEED AND DIRECTION, 35MPH SW

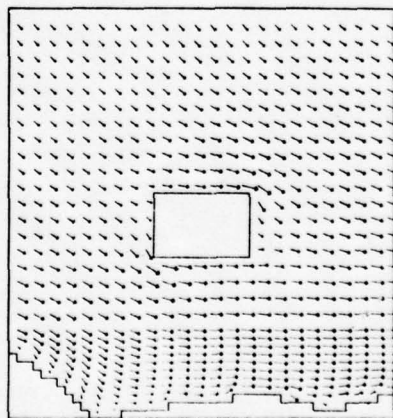
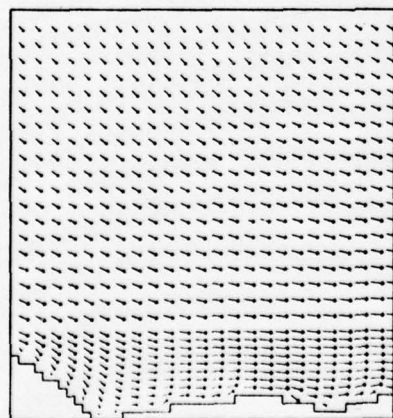




0-FT DEPTH
1 FT/SEC = (—)



10-FT DEPTH
1 FT/SEC = (—)

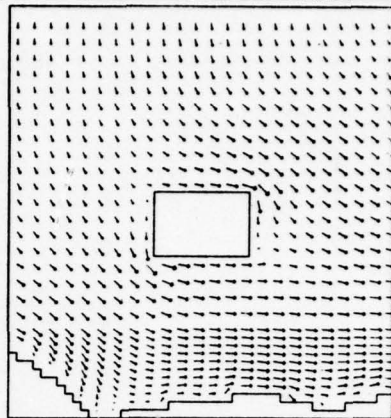
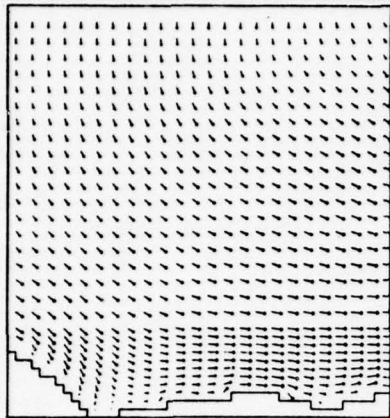


WITHOUT JETPORT

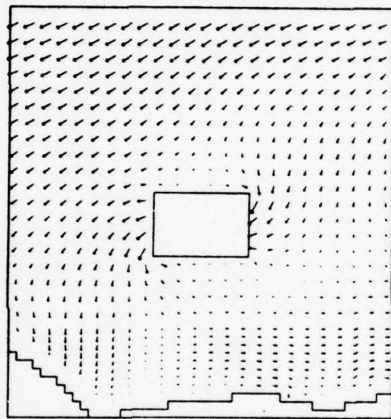
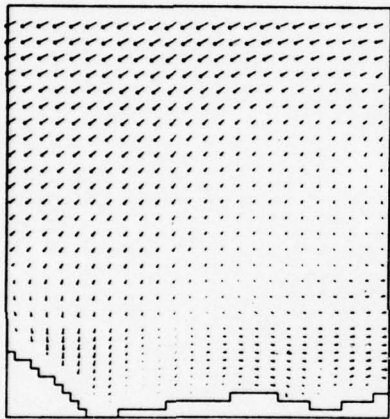
15-FT DEPTH
1 FT/SEC = (—)

WITH JETPORT

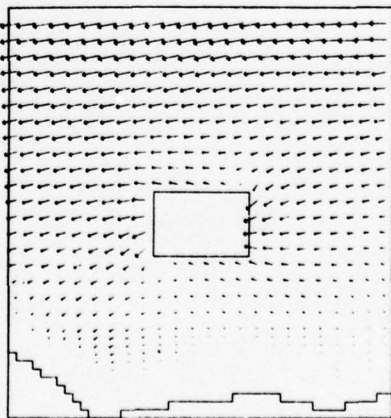
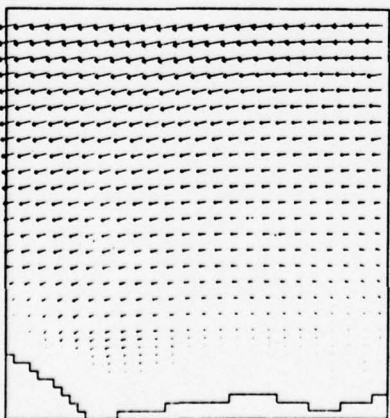
NEARSHORE HORIZONTAL VELOCITIES
AT 0-, 10-, AND 15-FT DEPTHS
WIND SPEED AND DIRECTION, 35 MPH SW



20-FT DEPTH
1 FT/SEC = (—)



30-FT DEPTH
1 FT/SEC = (—)



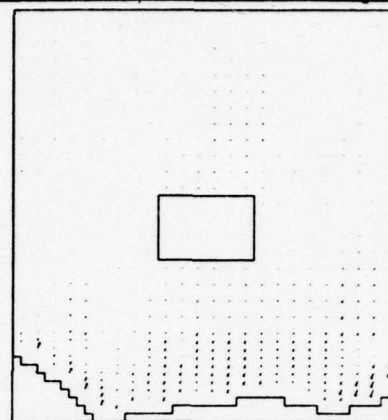
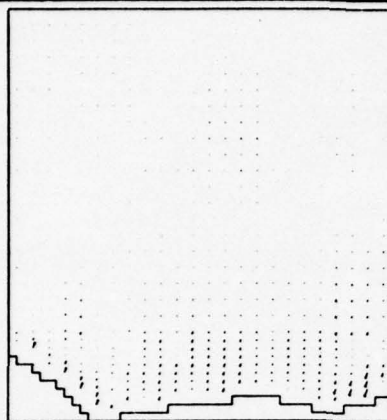
WITHOUT JETPORT

40-FT DEPTH
1 FT/SEC = (—)

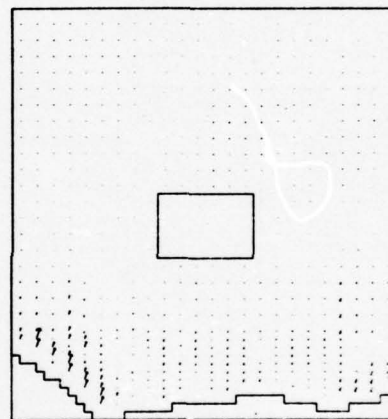
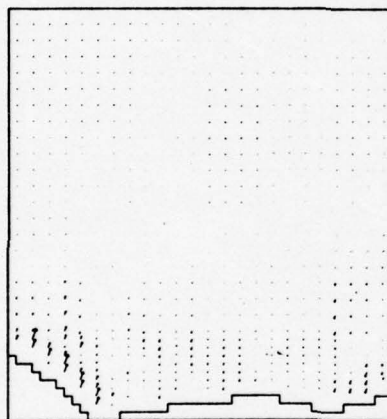
WITH JETPORT

NEARSHORE HORIZONTAL VELOCITIES
AT 20-, 30-, AND 40-FT DEPTHS

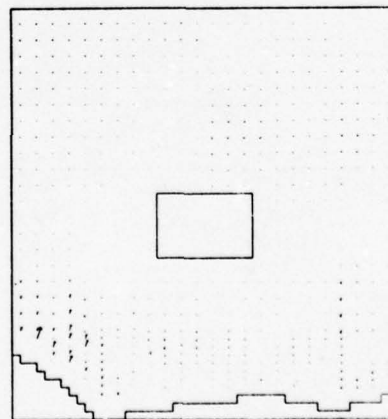
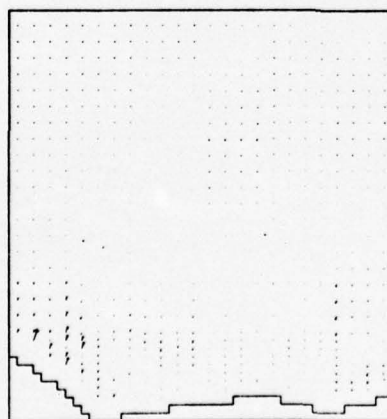
WIND SPEED AND DIRECTION, 35 MPH SW



10-FT DEPTH
1 FT/SEC = (—) X 250



20-FT DEPTH
1 FT/SEC = (—) X 250

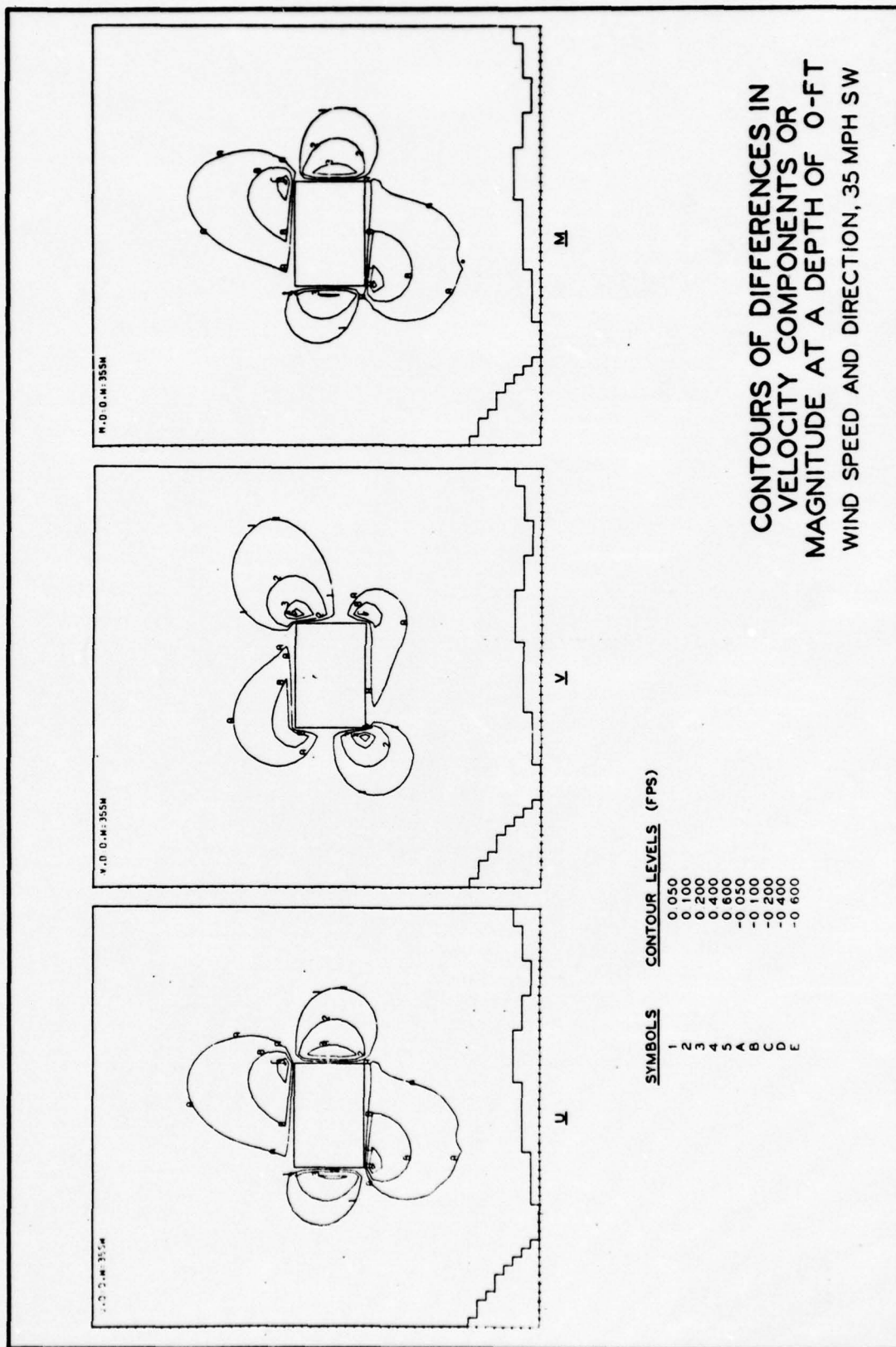


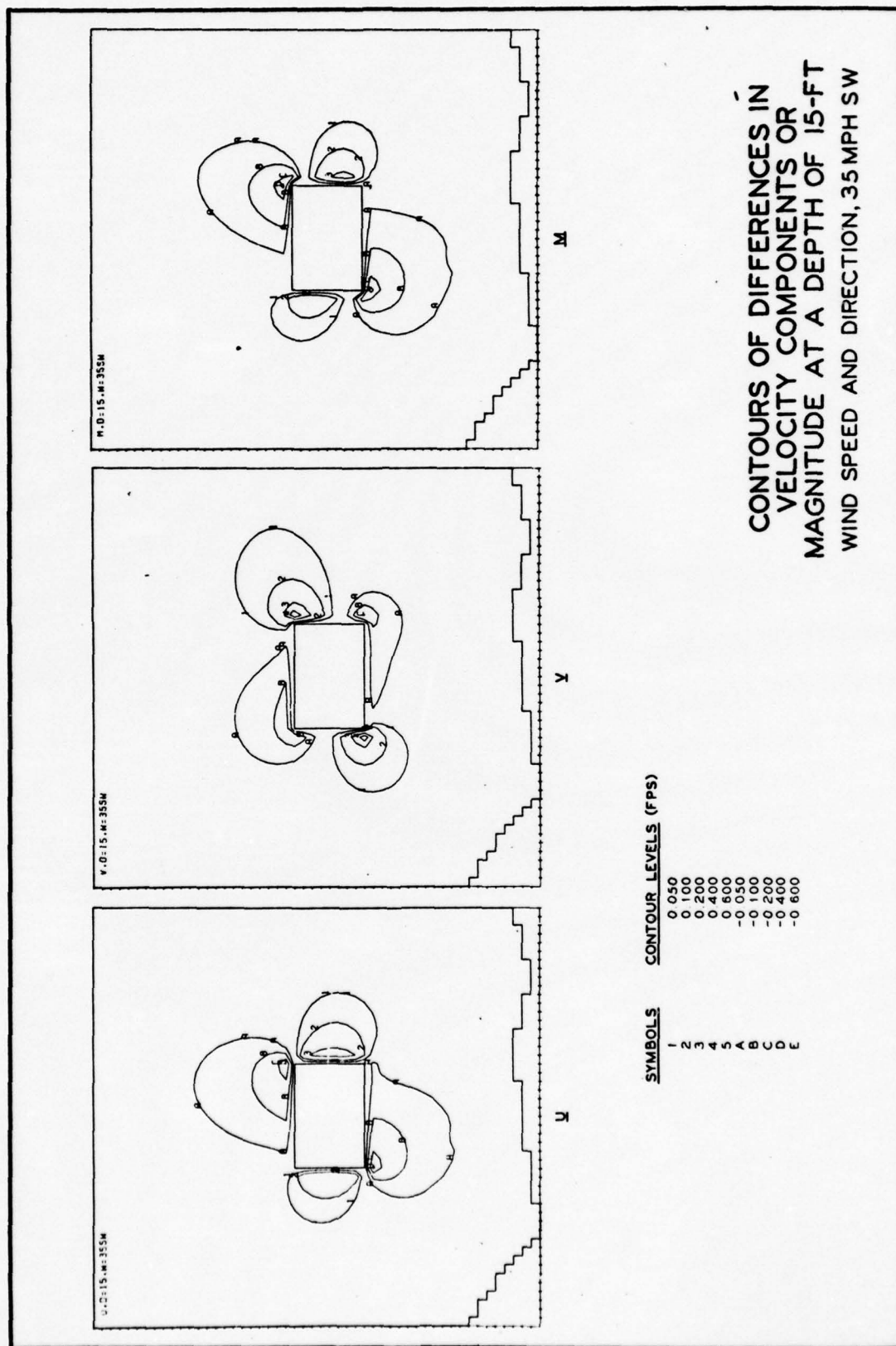
WITHOUT JETPORT

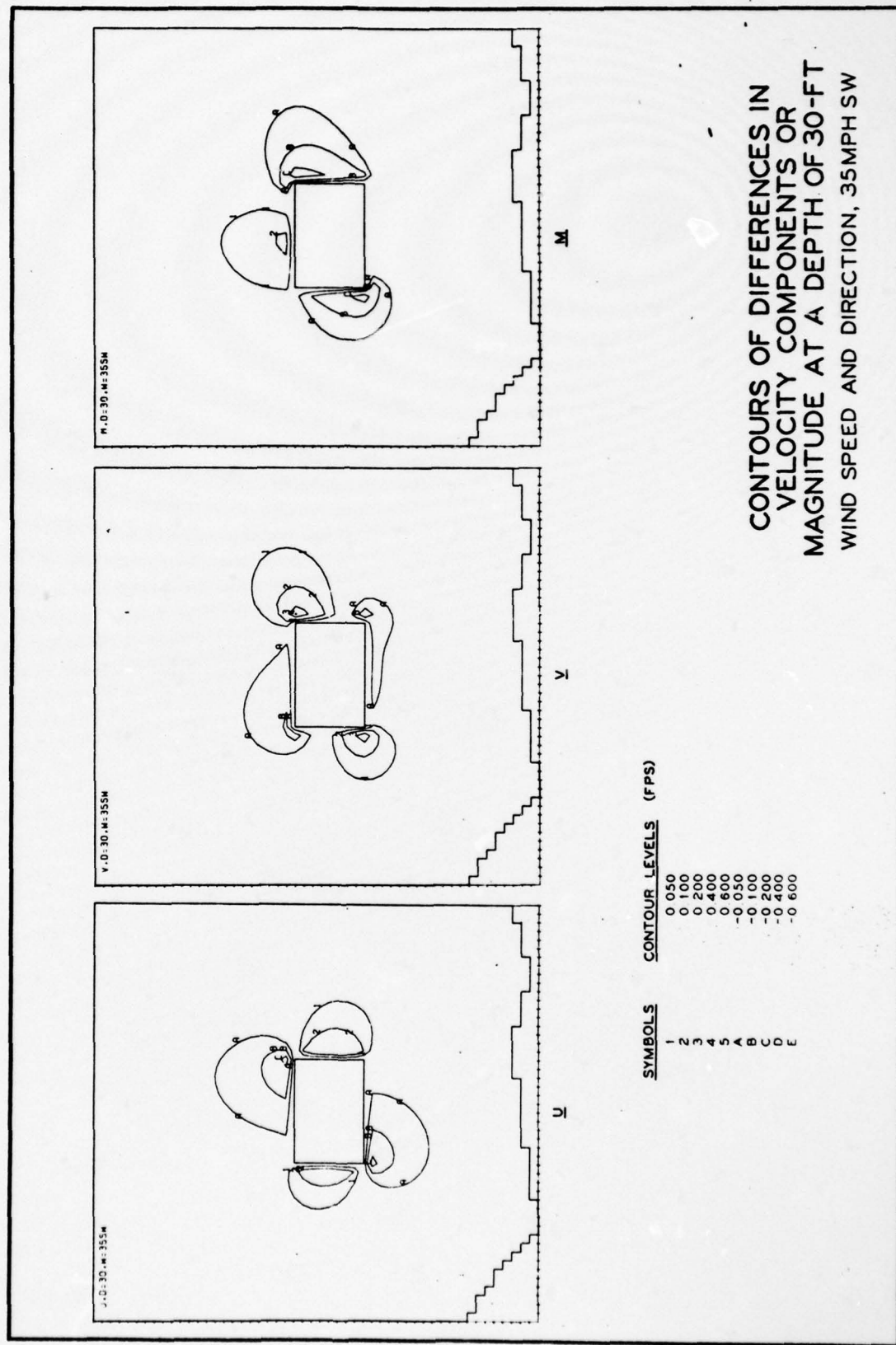
30-FT DEPTH
1 FT/SEC = (—) X 250

WITH JETPORT

NEARSHORE VERTICAL VELOCITIES
AT 10-, 20-, AND 30-FT DEPTHS
WIND SPEED AND DIRECTION, 35 MPH SW



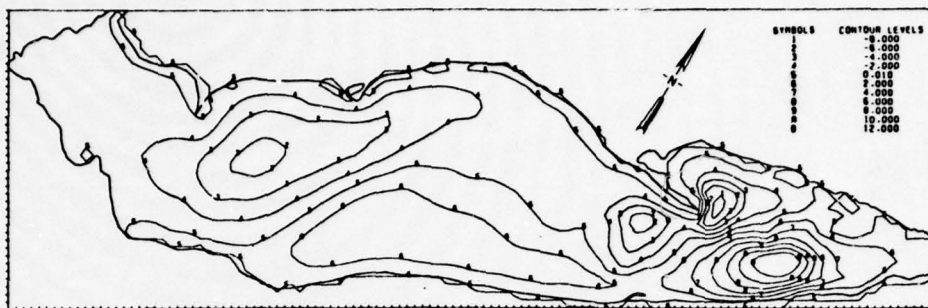




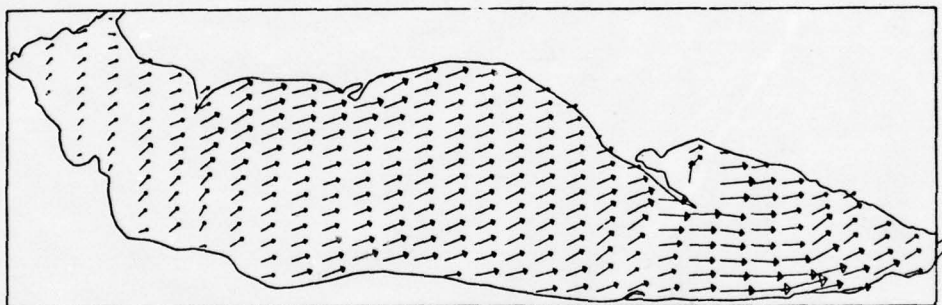
SYMBOLS CONTOUR LEVELS (FPS)

1	0 050
2	0 100
3	0 200
4	0 400
5	0 600
A	-0 050
B	-0 100
C	-0 200
D	-0 400
E	-0 600

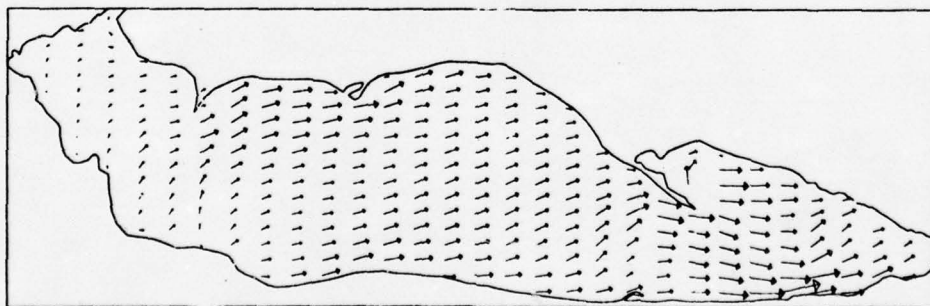
CONTOURS OF DIFFERENCES IN
VELOCITY COMPONENTS OR
MAGNITUDE AT A DEPTH OF 30-FT
WIND SPEED AND DIRECTION, 35MPH SW



CONTOURS OF NON-DIMENSIONAL STREAM FUNCTION



0-FT DEPTH



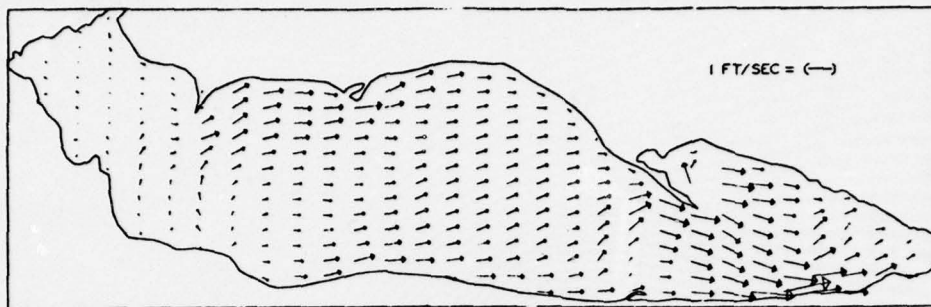
5-FT DEPTH

HORIZONTAL VELOCITIES

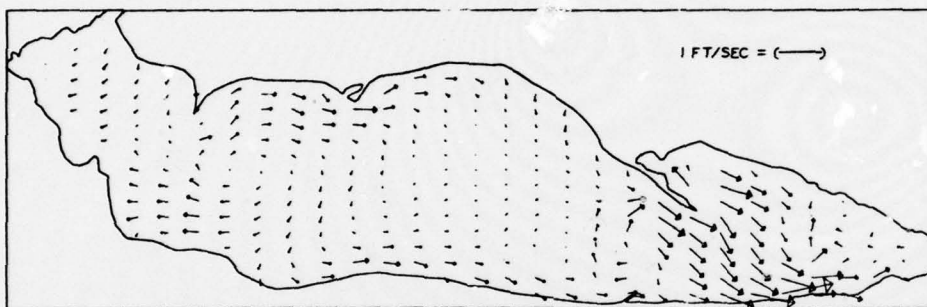
1 FT/SEC = (—)

**STREAM FUNCTION
CONTOURS AND HORIZONTAL
VELOCITIES FOR LAKE ERIE**

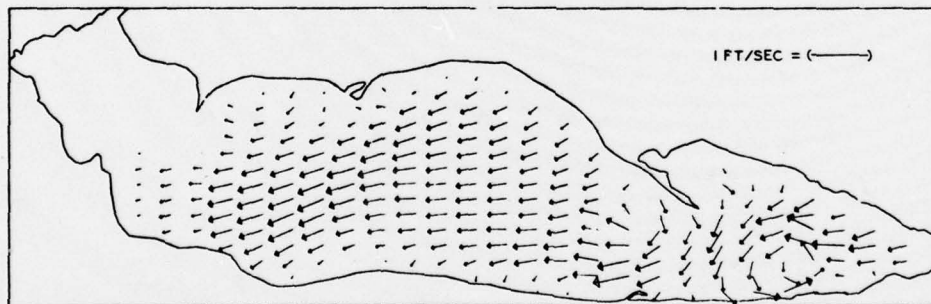
WIND SPEED AND
DIRECTION, 35 MPH SSW



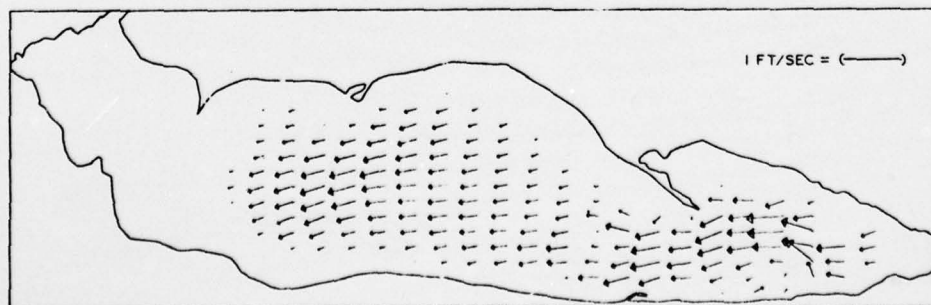
10-FT DEPTH



20-FT DEPTH

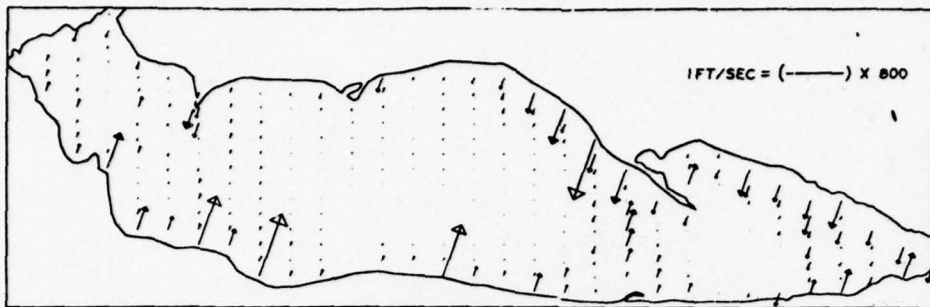


40-FT DEPTH

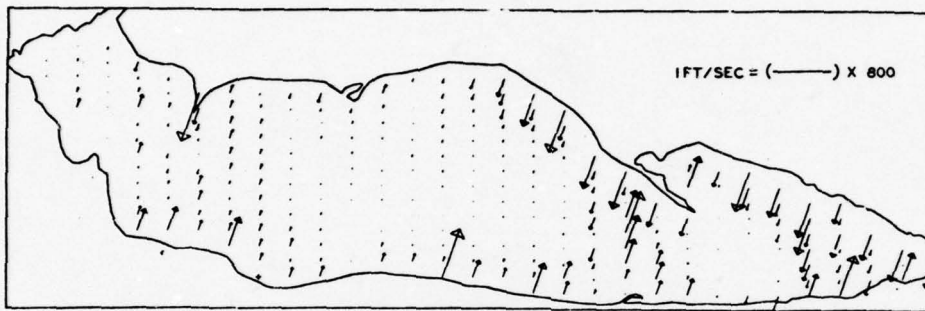


60-FT DEPTH

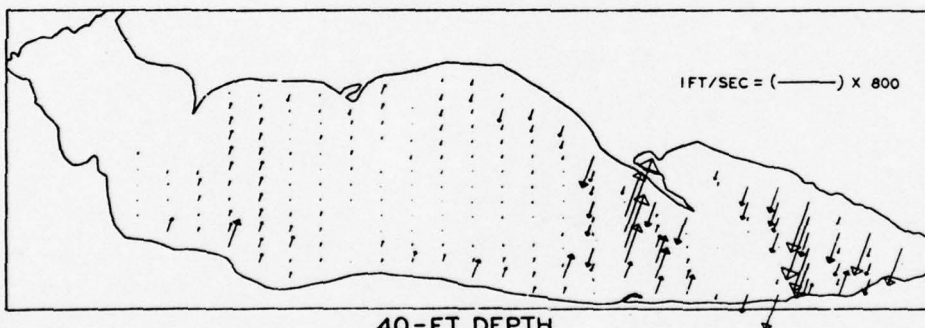
HORIZONTAL VELOCITIES AT
10-, 20-, 40-, AND 60-FT DEPTHS
WIND SPEED AND DIRECTION, 35 MPH SSW



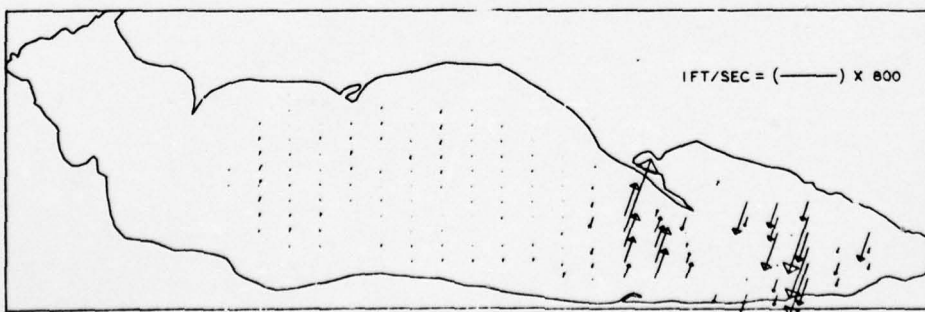
10-FT DEPTH



20-FT DEPTH

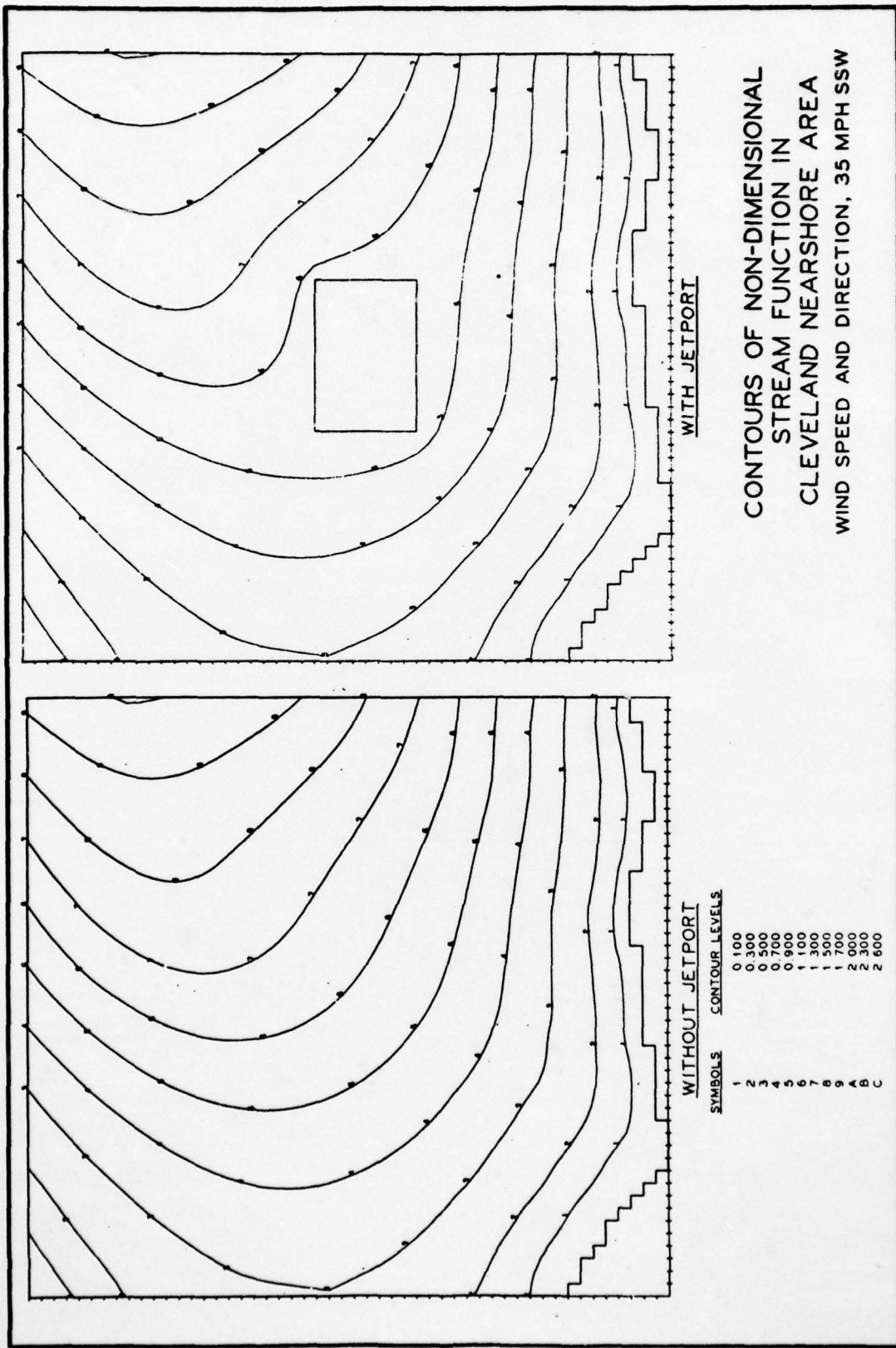


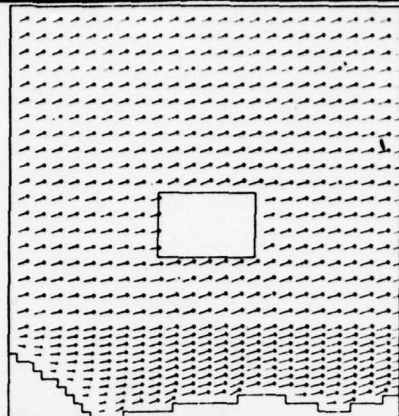
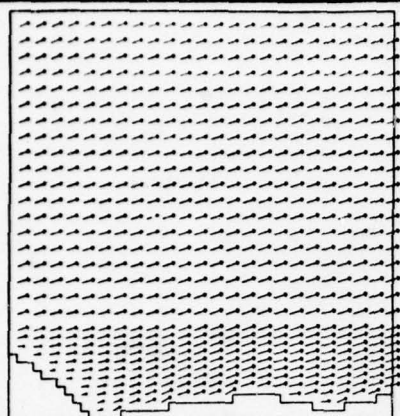
40-FT DEPTH



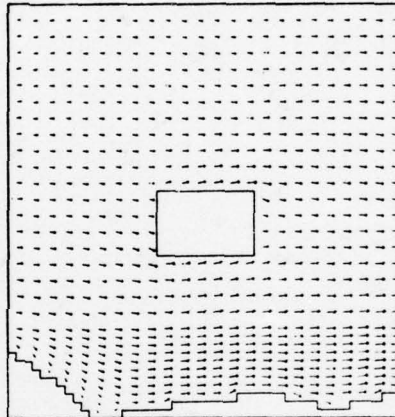
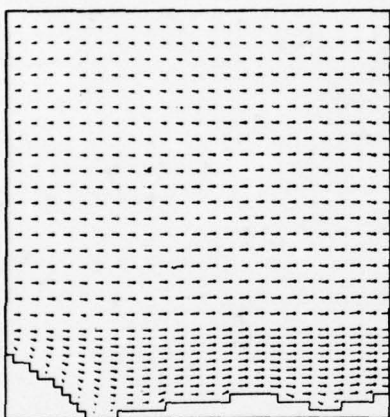
60-FT DEPTH

VERTICAL VELOCITIES AT
10-, 20-, 40-, AND 60-FT DEPTHS
WIND SPEED AND DIRECTION, 35 MPH SSW

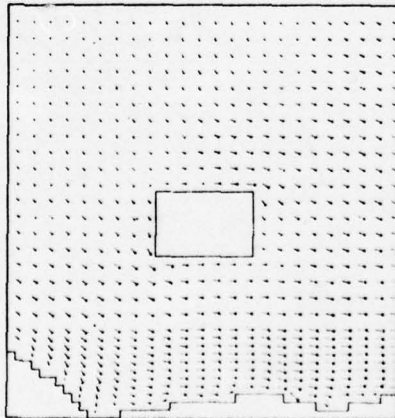
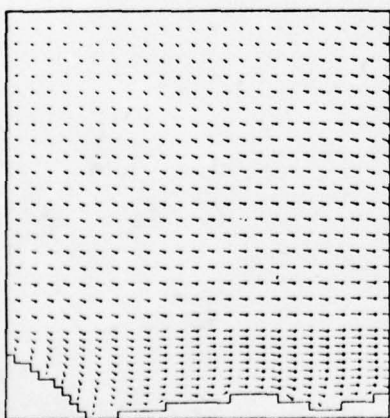




0-FT DEPTH
1 FT/SEC = (—)



10-FT DEPTH
1 FT/SEC = (—)

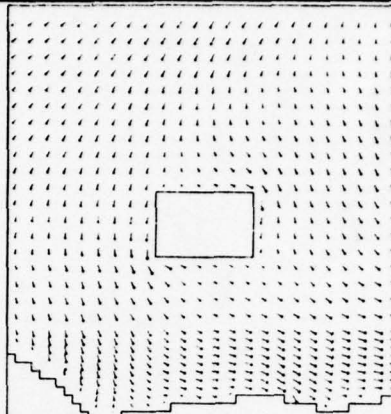
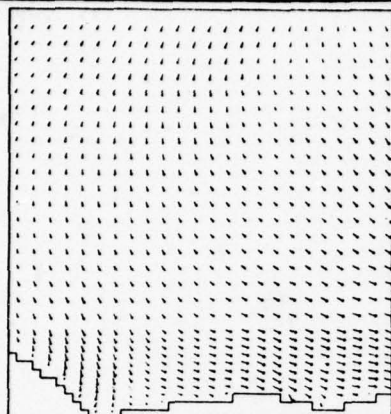


WITHOUT JETPORT

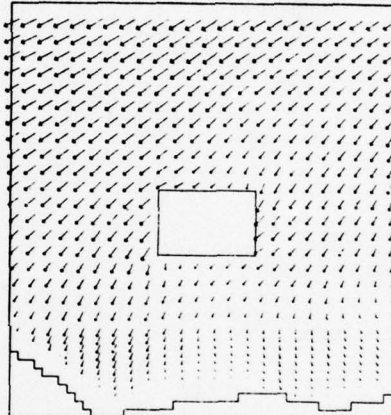
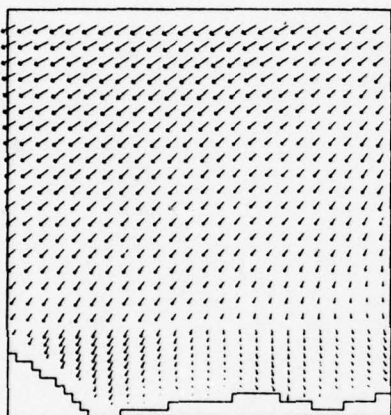
15-FT DEPTH
1 FT/SEC = (—)

WITH JETPORT

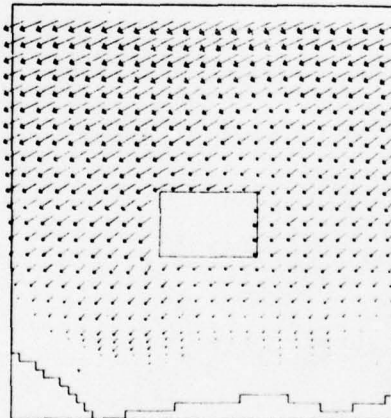
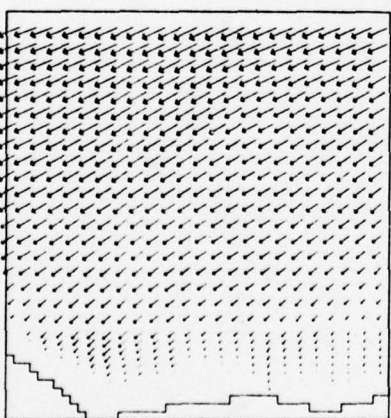
NEARSHORE HORIZONTAL VELOCITIES
AT 0-, 10-, AND 15-FT DEPTHS
WIND SPEED AND DIRECTION, 35 MPH SSW



20-FT DEPTH
1 FT/SEC = (→)



30-FT DEPTH
1 FT/SEC = (→)



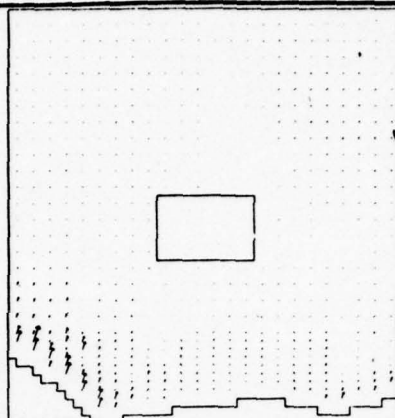
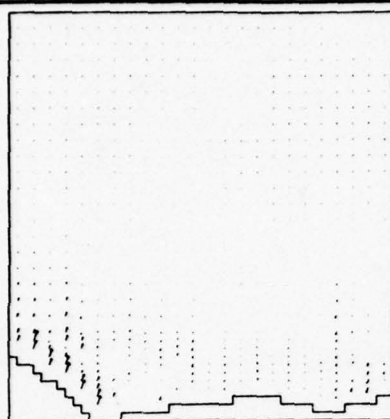
WITHOUT JETPORT

40-FT DEPTH
1 FT/SEC = (→)

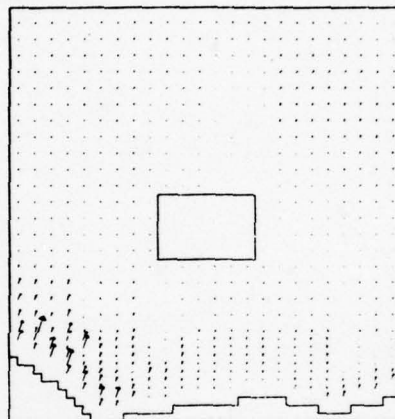
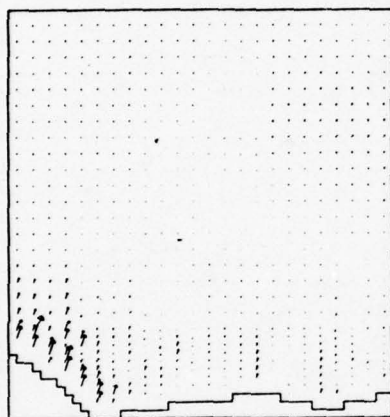
WITH JETPORT

NEARSHORE HORIZONTAL VELOCITIES AT 20-, 30-, AND 40-FT DEPTHS

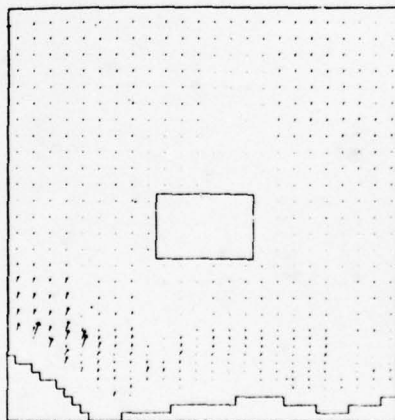
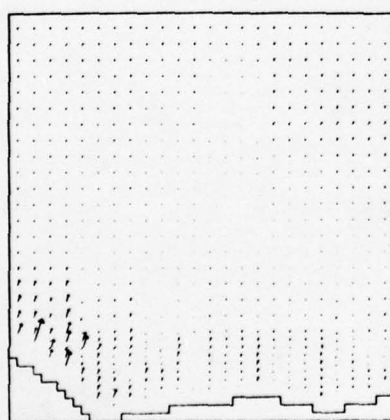
WIND SPEED AND DIRECTION, 35 MPH SSW



10-FT DEPTH
1 FT/SEC = (→) X250



20-FT DEPTH
1 FT/SEC = (→) X250

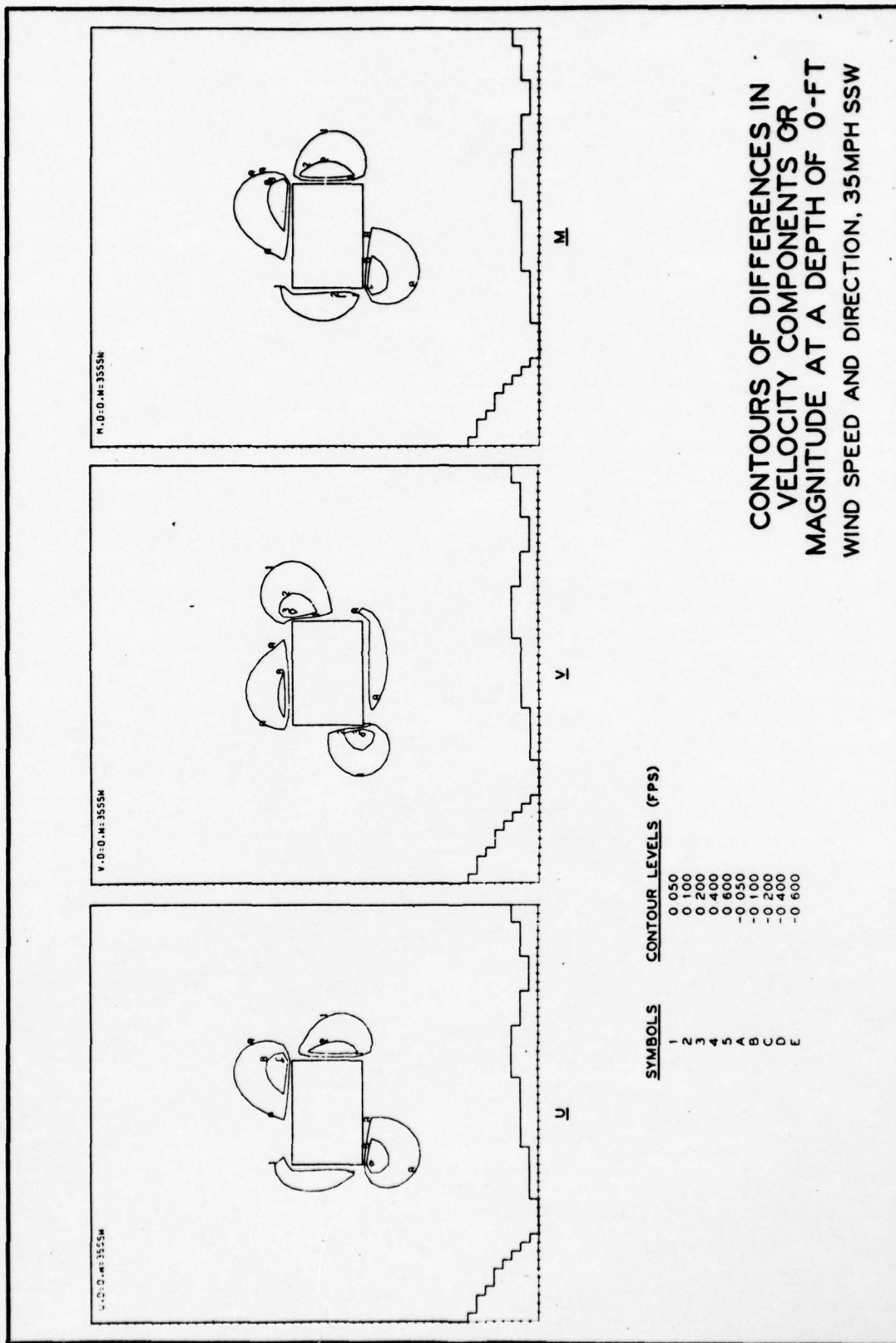


WITHOUT JETPORT

30-FT DEPTH
1 FT/SEC = (→) X250

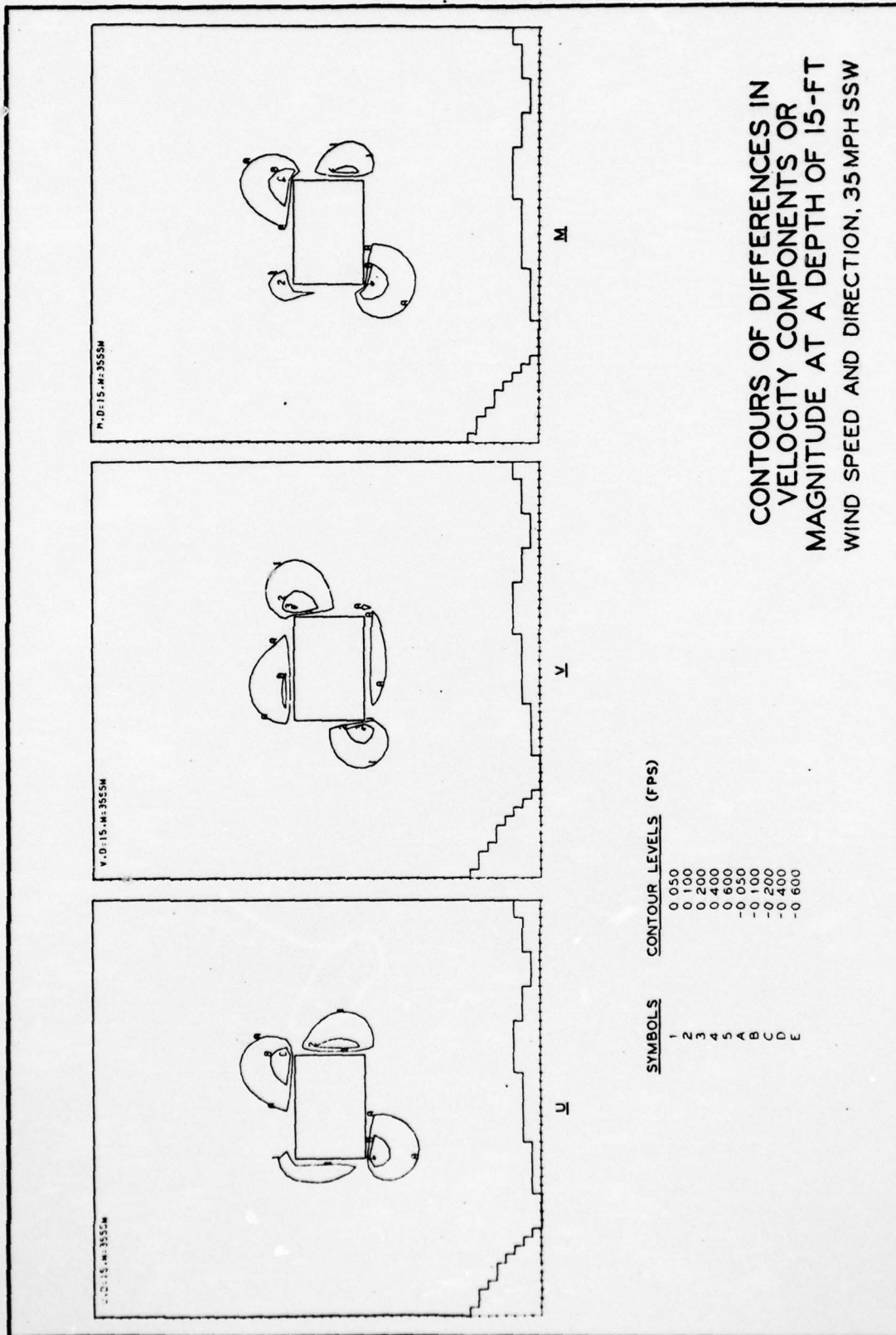
WITH JETPORT

NEARSHORE VERTICAL VELOCITIES
AT 10-, 20-, AND 30-FT DEPTHS
WIND SPEED AND DIRECTION, 35 MPH SSW



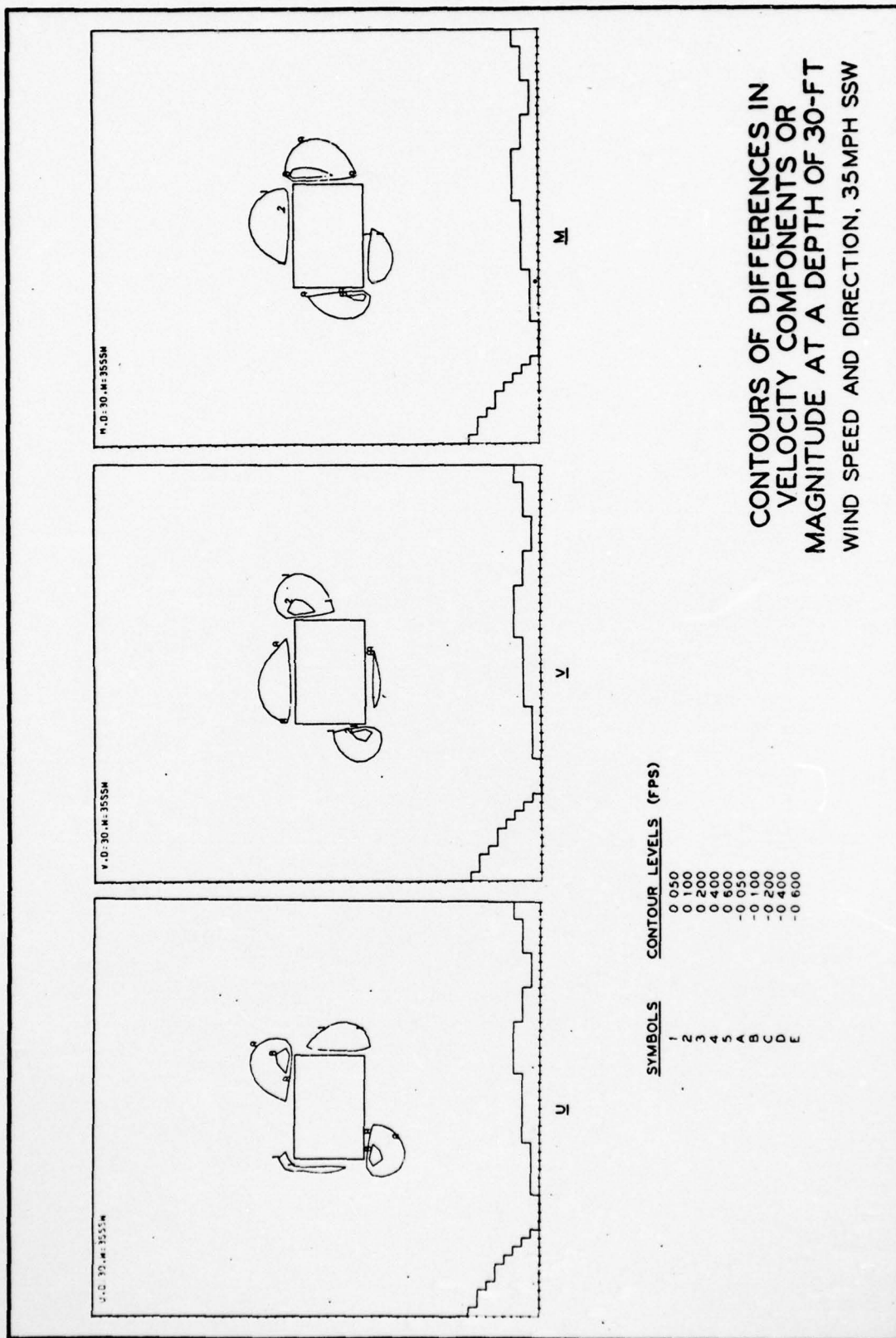
CONTOURS OF DIFFERENCES IN
VELOCITY COMPONENTS OR
MAGNITUDE AT A DEPTH OF 0-FT
WIND SPEED AND DIRECTION, 35MPH SSW

SYMBOLS	CONTOUR LEVELS (FPS)
1	0.050
2	0.100
3	0.200
4	0.400
5	0.600
A	-0.050
B	-0.100
C	-0.200
D	-0.400
E	-0.600



CONTOURS OF DIFFERENCES IN
VELOCITY COMPONENTS OR
MAGNITUDE AT A DEPTH OF 15-FT
WIND SPEED AND DIRECTION, 35MPH SSW

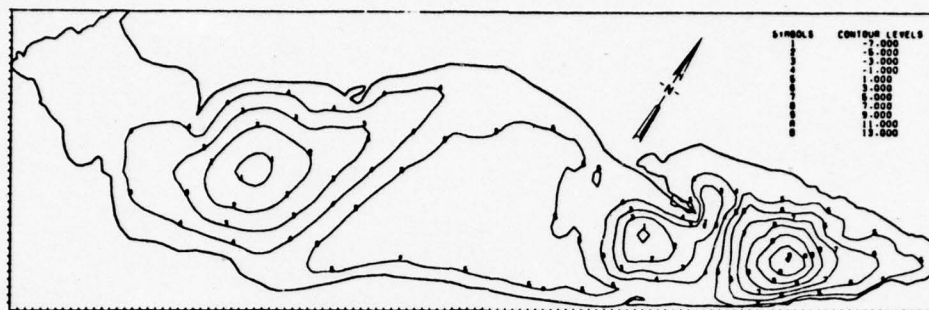
SYMBOLS	CONTOUR LEVELS (FPS)
1	0 050
2	0 100
3	0 200
4	0 400
5	0 600
A	-0 050
B	-0 100
C	-0 200
D	-0 400
E	-0 600



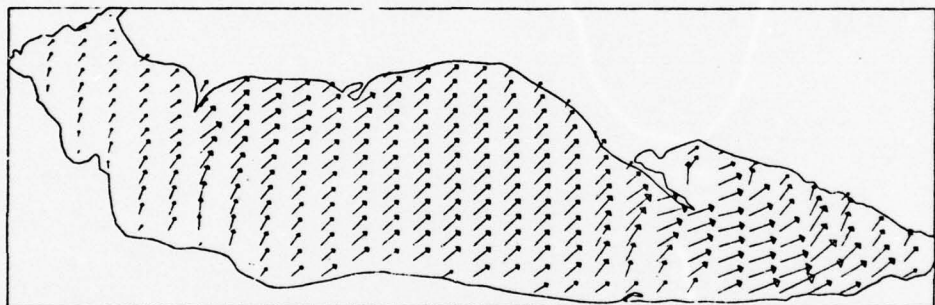
SYMBOLS CONTOUR LEVELS (FPS)

1	0 050
2	0 100
3	0 200
4	0 400
5	0 600
A	-0 050
B	-0 100
C	-0 200
D	-0 400
E	-0 600

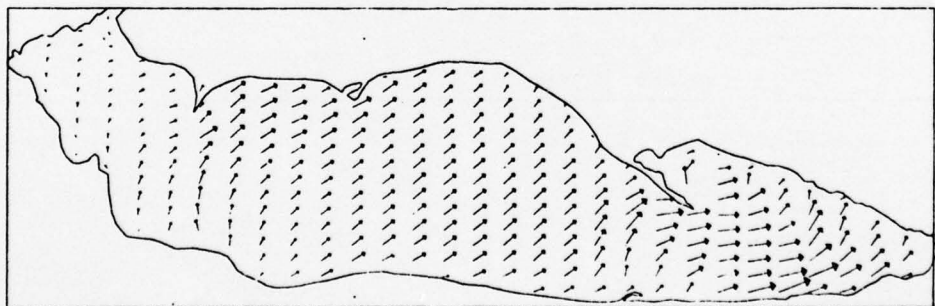
CONTOURS OF DIFFERENCES IN
VELOCITY COMPONENTS OR
MAGNITUDE AT A DEPTH OF 30-FT
WIND SPEED AND DIRECTION, 35MPH SSW



CONTOURS OF NON-DIMENSIONAL STREAM FUNCTION



0-FT DEPTH



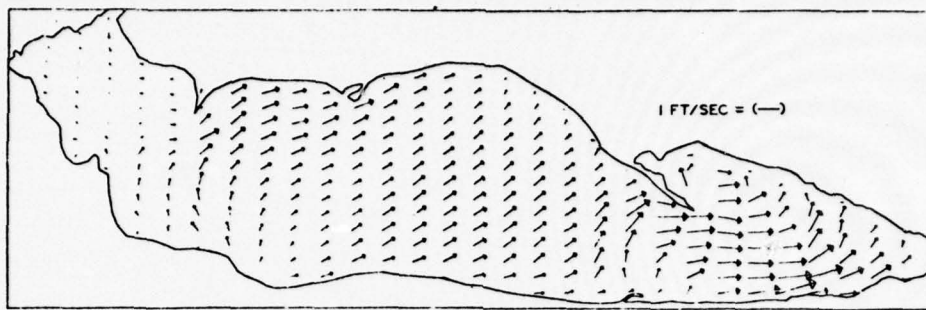
5-FT DEPTH

HORIZONTAL VELOCITIES

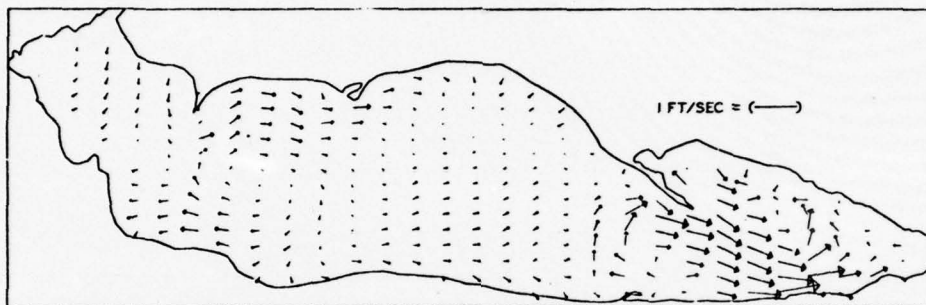
1 FT/SEC = (—)

STREAM FUNCTION
CONTOURS AND HORIZONTAL
VELOCITIES FOR LAKE ERIE

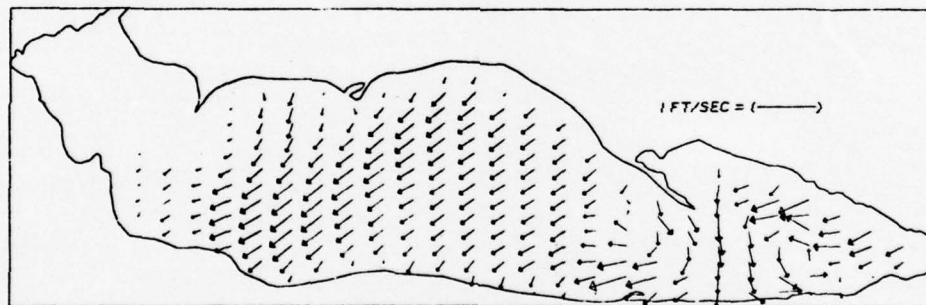
WIND SPEED AND
DIRECTION, 35 MPH S



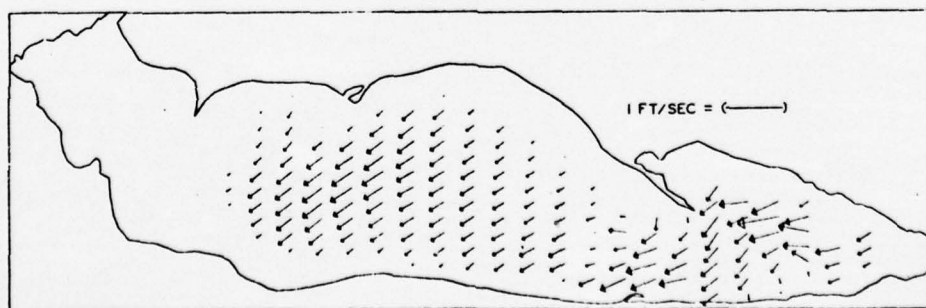
10-FT DEPTH



20-FT DEPTH

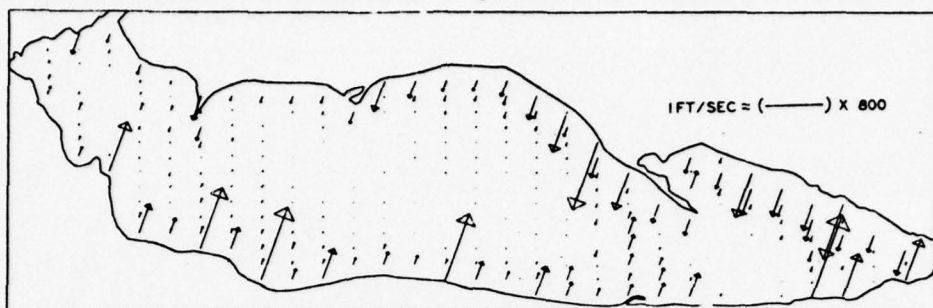


40-FT DEPTH

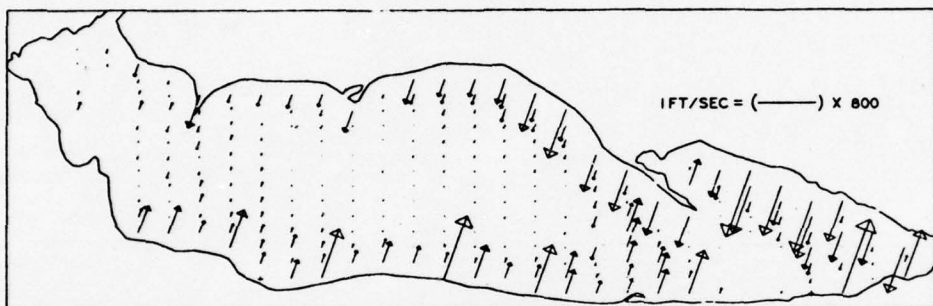


60-FT DEPTH

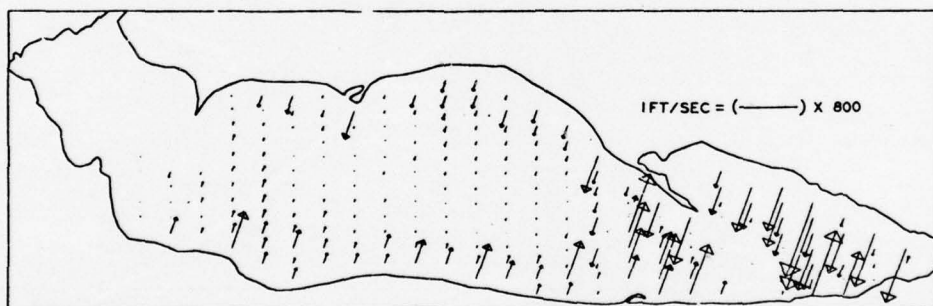
HORIZONTAL VELOCITIES AT
10-, 20-, 40-, AND 60-FT DEPTHS
WIND SPEED AND DIRECTION, 35MPH S



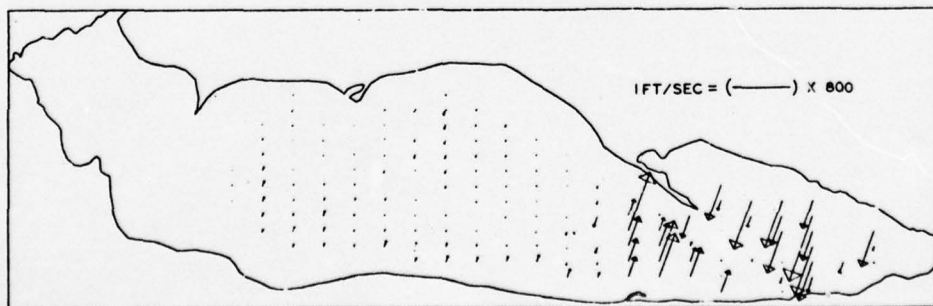
10-FT DEPTH



20-FT DEPTH

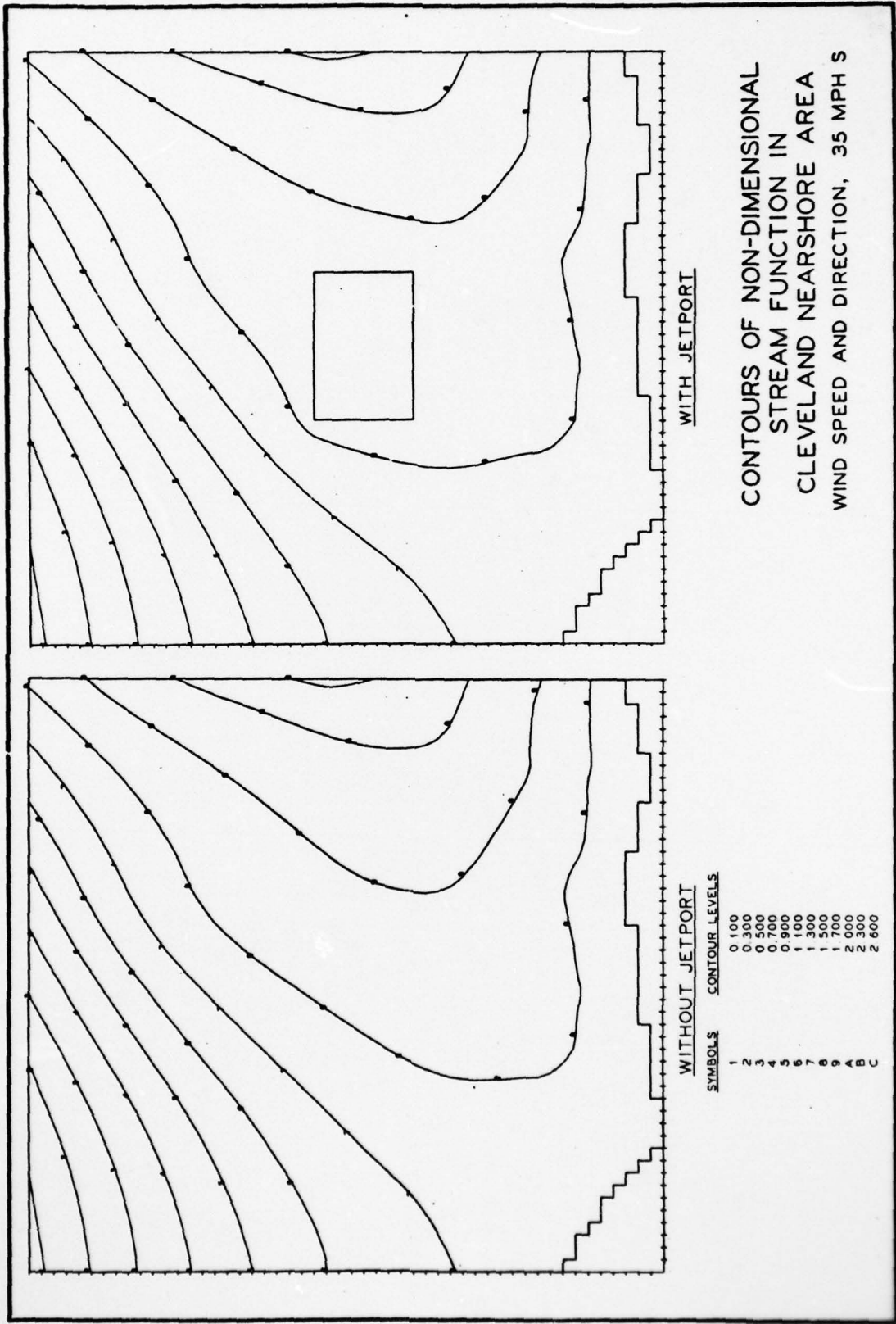


40-FT DEPTH



60-FT DEPTH

VERTICAL VELOCITIES AT
10-, 20-, 40-, AND 60-FT DEPTHS
WIND SPEED AND DIRECTION, 35MPH S



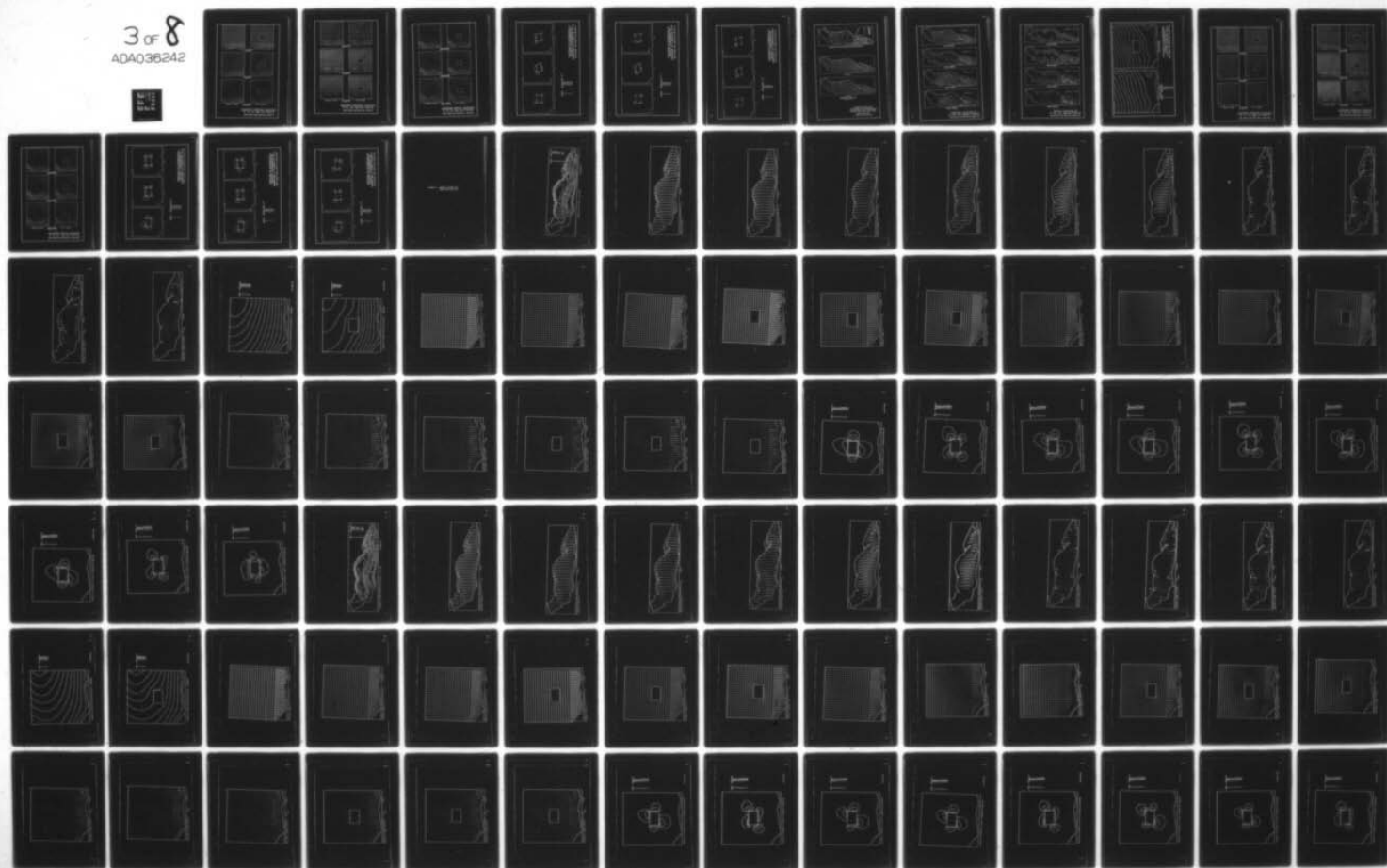
AD-A036 242

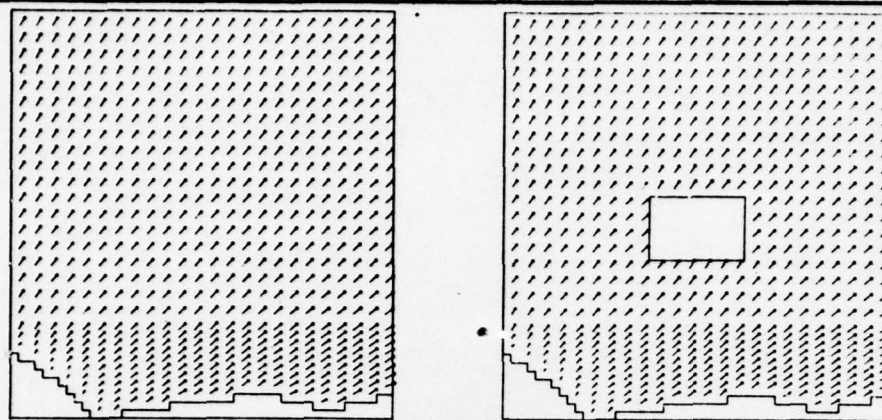
ARMY ENGINEER WATERWAYS EXPERIMENT STATION VICKSBURG MISS F/G 1/5
LAKE ERIE INTERNATIONAL JETPORT MODEL FEASIBILITY INVESTIGATION--ETC(U)
FEB 76 D L DURHAM, H L BUTLER
WES-MP-H-76-3-7

UNCLASSIFIED

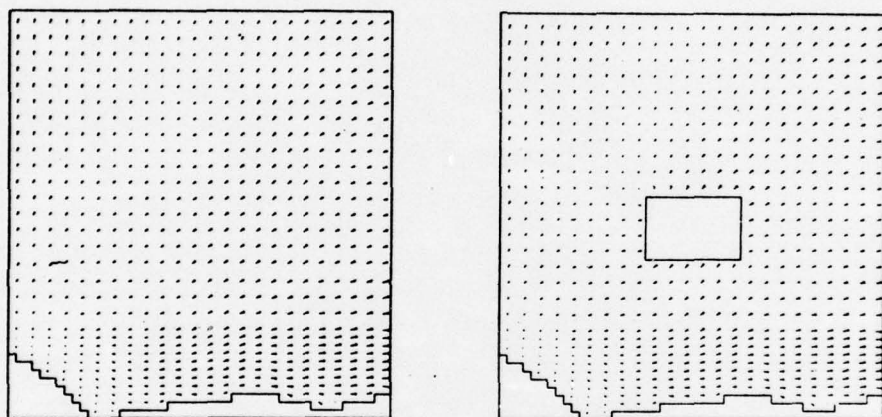
NL

3 of 8
ADA036242

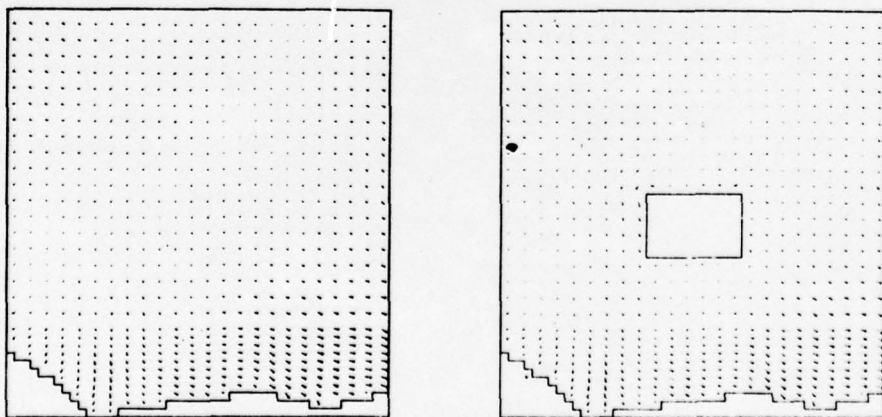




0-FT DEPTH
1 FT/SEC = (-)



10-FT DEPTH
1 FT/SEC = (-)

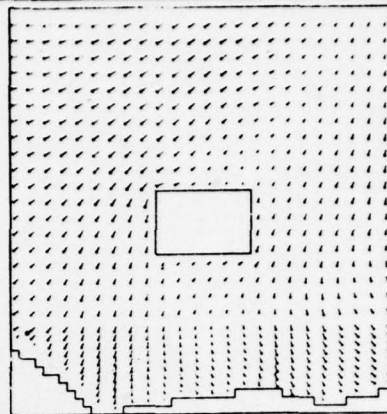
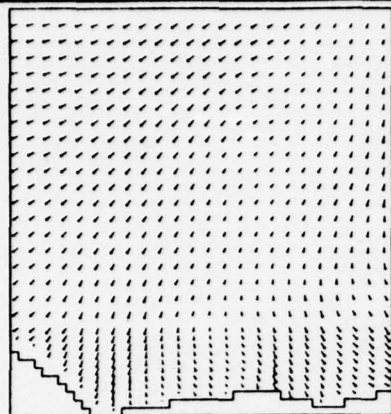


WITHOUT JETPORT

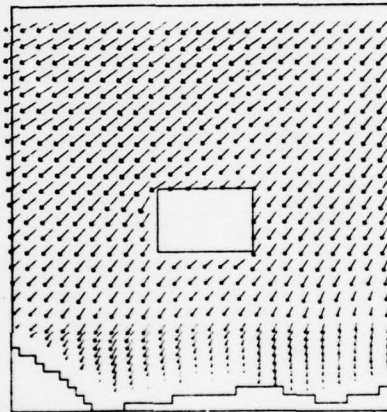
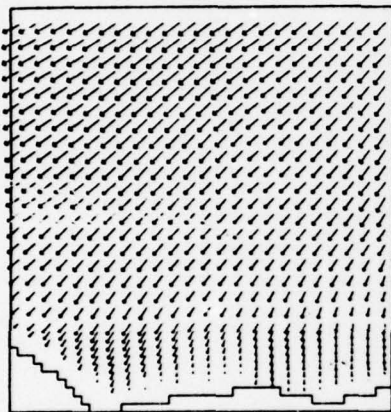
15-FT DEPTH
1 FT/SEC = (-)

WITH JETPORT

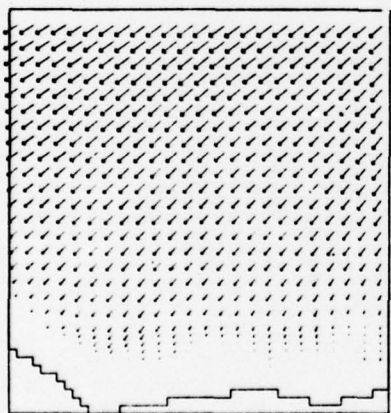
NEARSHORE HORIZONTAL VELOCITIES
AT 0-, 10-, AND 15-FT DEPTHS
WIND SPEED AND DIRECTION, 35 MPH S



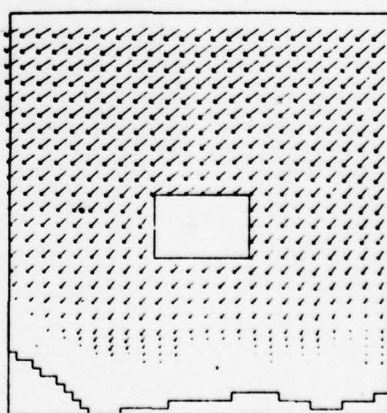
20-FT DEPTH
1 FT/SEC = (→)



30-FT DEPTH
1 FT/SEC = (→)



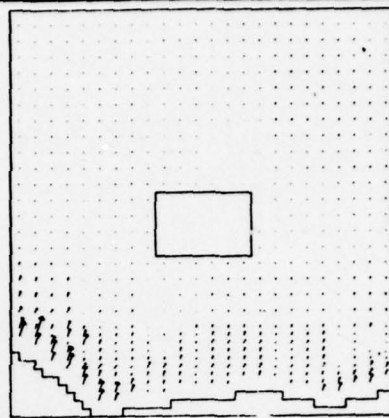
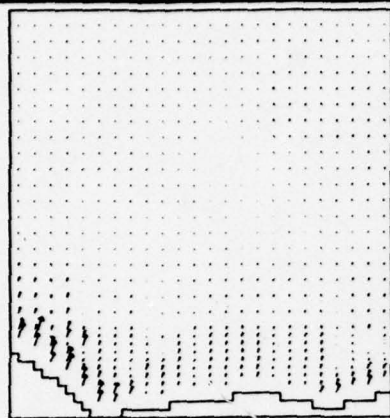
WITHOUT JETPORT



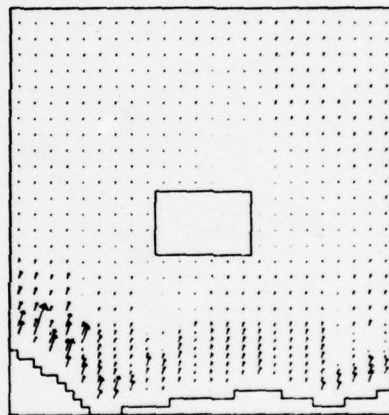
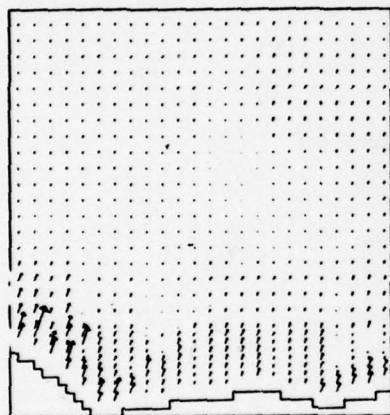
WITH JETPORT

40-FT DEPTH
1 FT/SEC = (→)

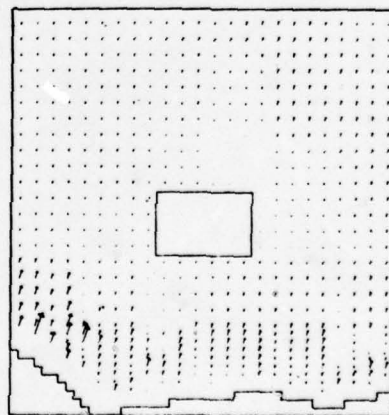
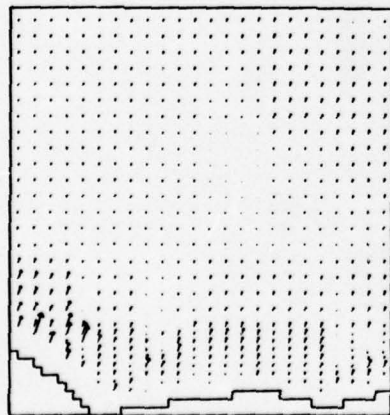
NEARSHORE HORIZONTAL VELOCITIES
AT 20-, 30-, AND 40-FT DEPTHS
WIND SPEED AND DIRECTION, 35 MPH S



10-FT DEPTH
1 FT/SEC = (—) X250



20-FT DEPTH
1 FT/SEC = (—) X250

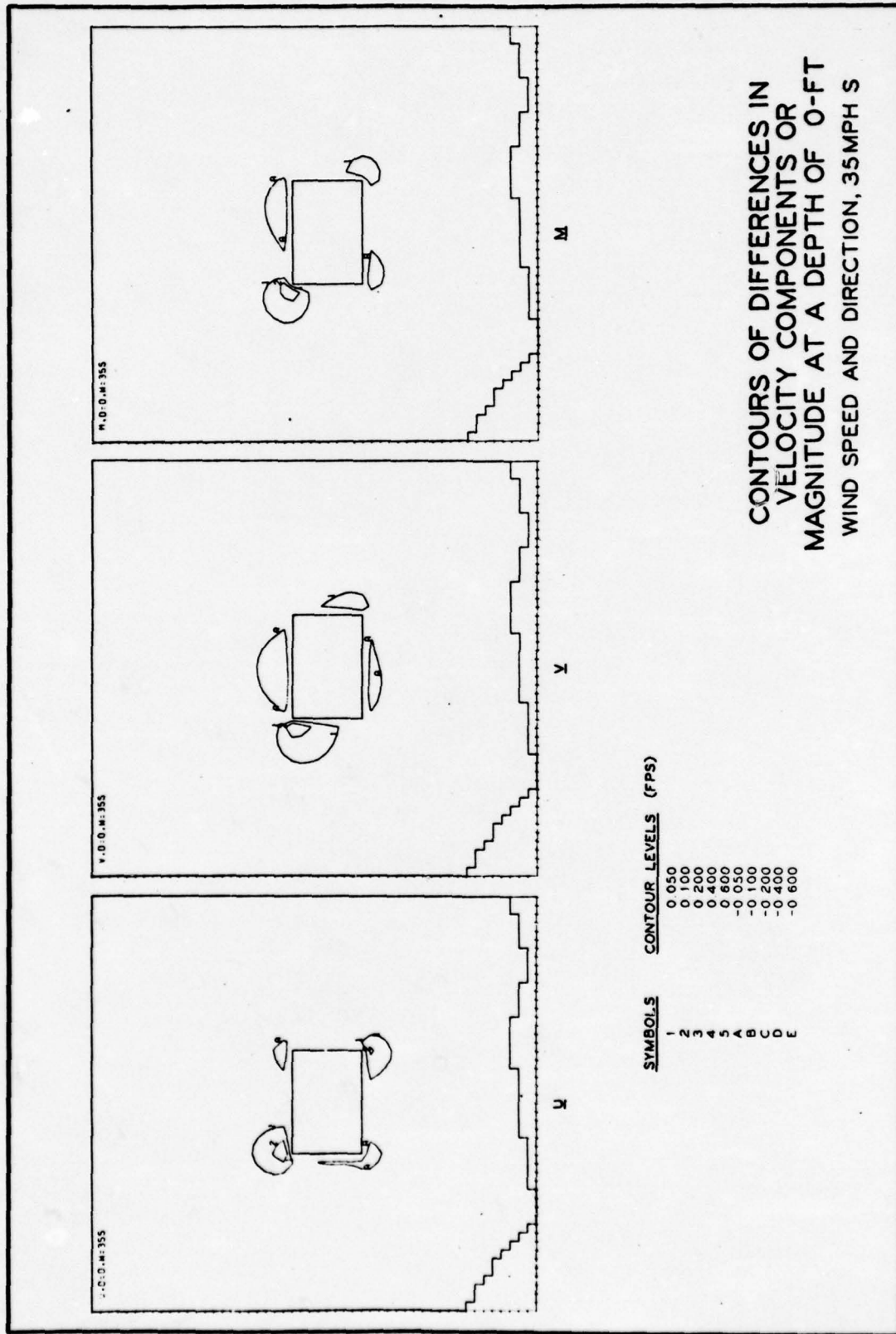


WITHOUT JETPORT

30-FT DEPTH
1 FT/SEC = (—) X250

WITH JETPORT

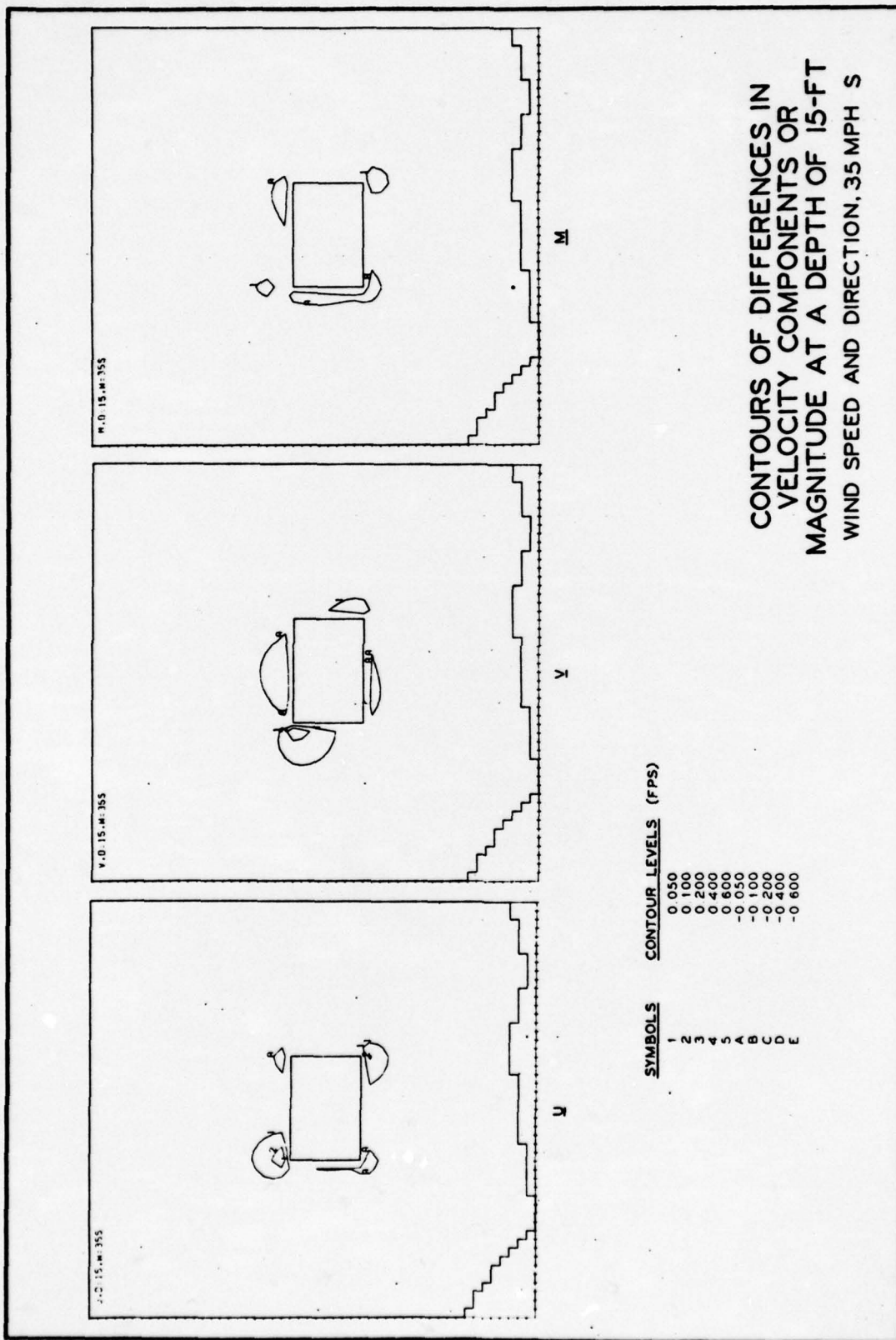
NEARSHORE VERTICAL VELOCITIES
AT 10-, 20-, AND 30-FT DEPTHS
WIND SPEED AND DIRECTION, 35 MPH S

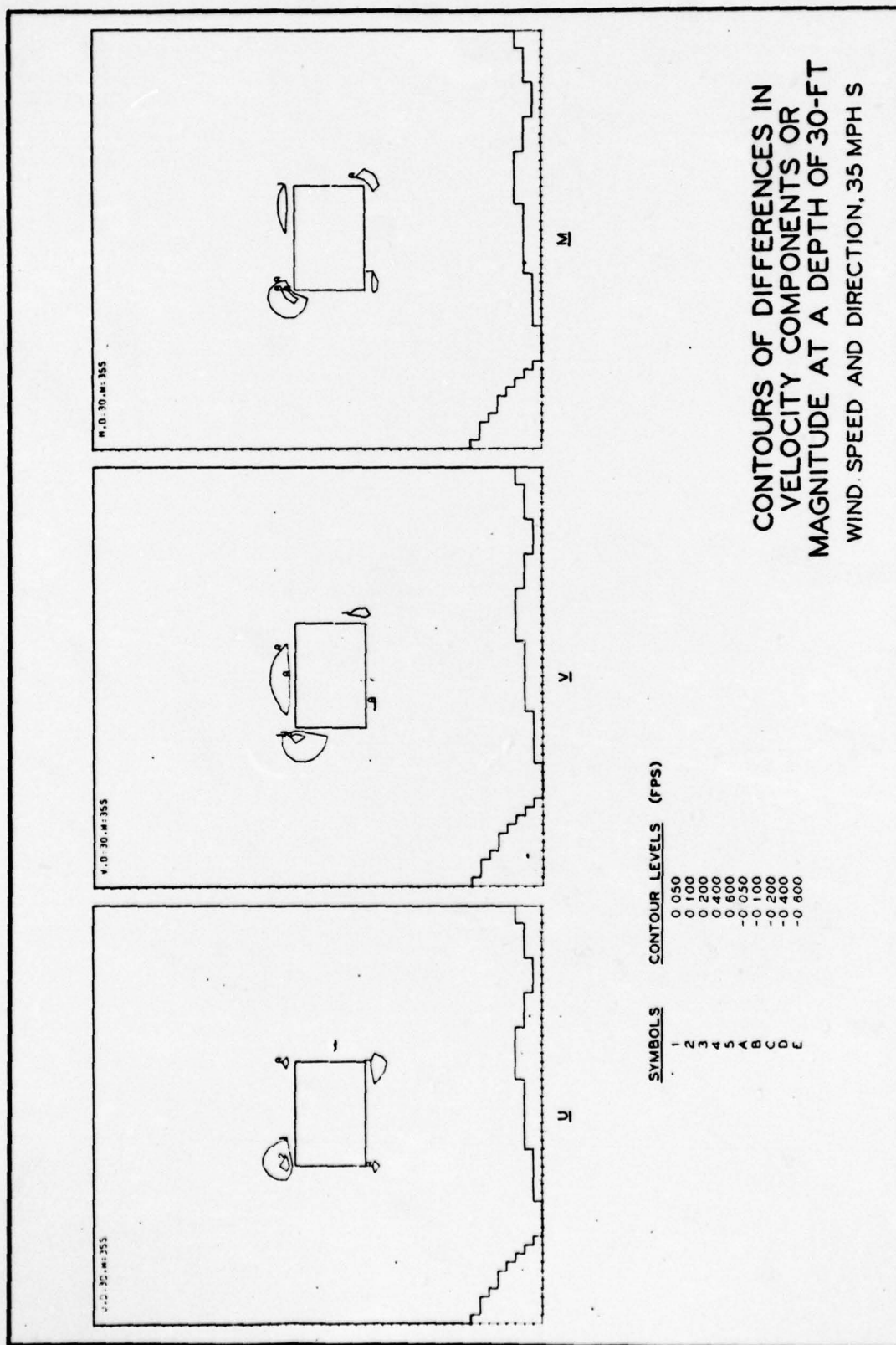


SYMBOLS CONTOUR LEVELS (FPS)

1	0.050
2	0.100
3	0.200
4	0.400
5	0.600
A	-0.050
B	-0.100
C	-0.200
D	-0.400
E	-0.600

CONTOURS OF DIFFERENCES IN
VELOCITY COMPONENTS OR
MAGNITUDE AT A DEPTH OF 0-FT
WIND SPEED AND DIRECTION, 35MPH S





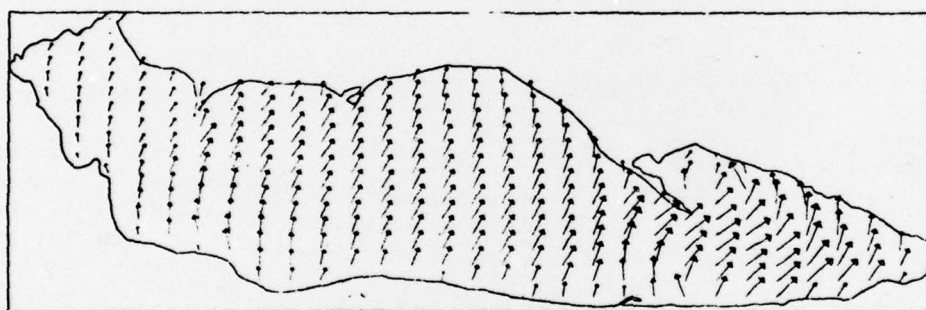
CONTOURS OF DIFFERENCES IN
VELOCITY COMPONENTS OR
MAGNITUDE AT A DEPTH OF 30-FT
WIND SPEED AND DIRECTION, 35 MPH S

SYMBOLS CONTOUR LEVELS (FPS)

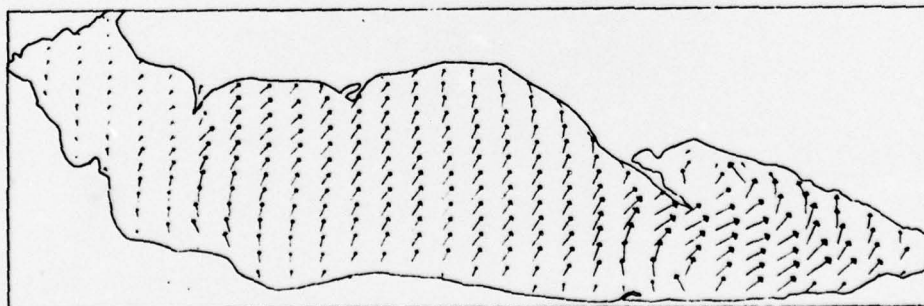
1	0 050
2	0 100
3	0 200
4	0 400
5	0 600
A	-0 050
B	-0 100
C	-0 200
D	-0 400
E	-0 600



CONTOURS OF NON-DIMENSIONAL STREAM FUNCTION



0-FT DEPTH



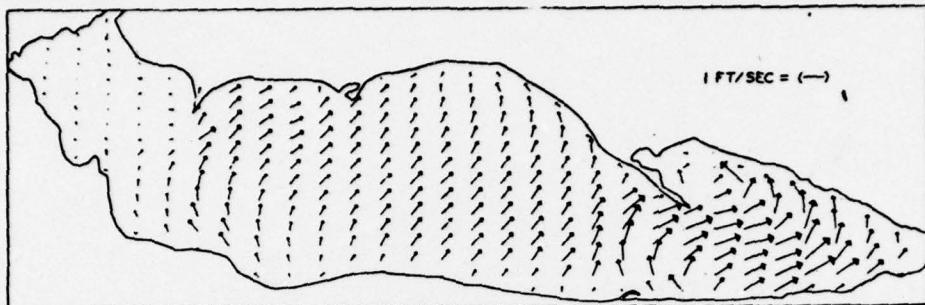
5-FT DEPTH

HORIZONTAL VELOCITIES

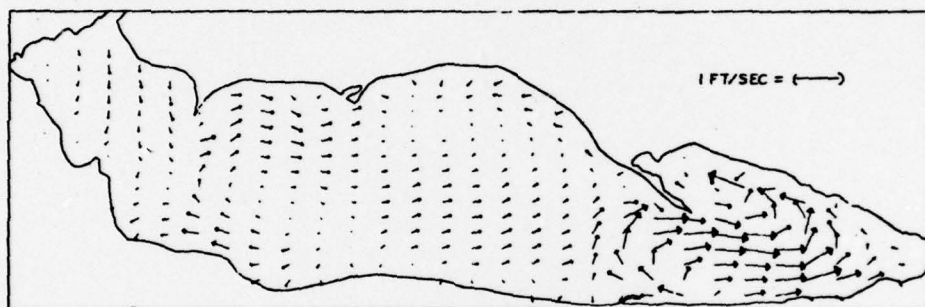
1 FT/SEC = (—)

STREAM FUNCTION
CONTOURS AND HORIZONTAL
VELOCITIES FOR LAKE ERIE

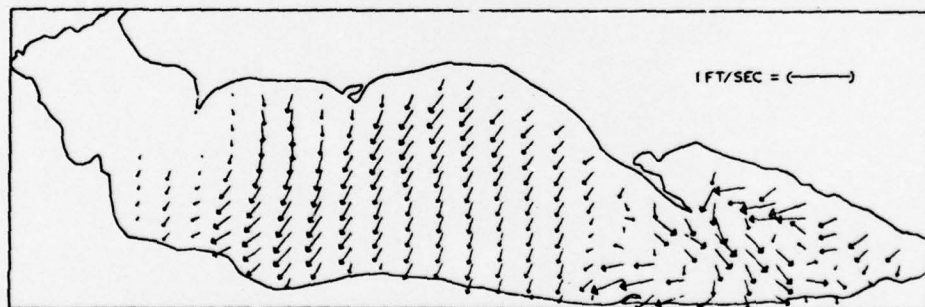
WIND SPEED AND
DIRECTION, 35 MPH SSE



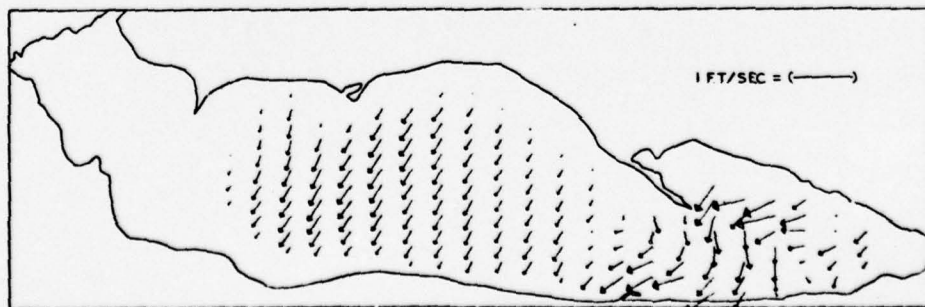
10-FT DEPTH



20-FT DEPTH

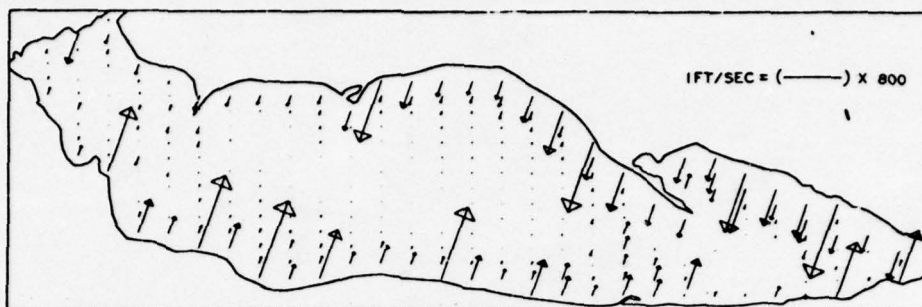


40-FT DEPTH

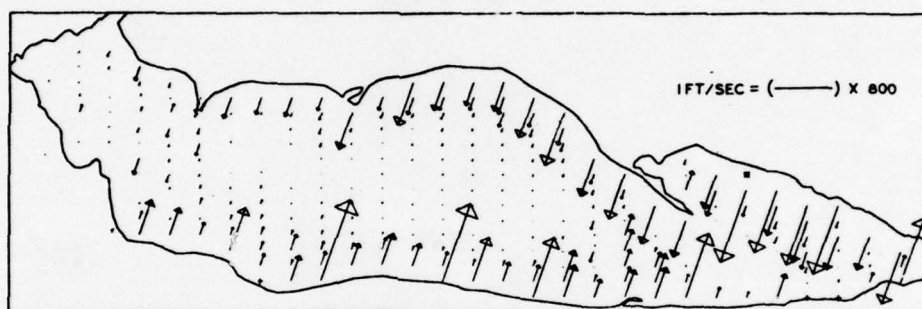


60-FT DEPTH

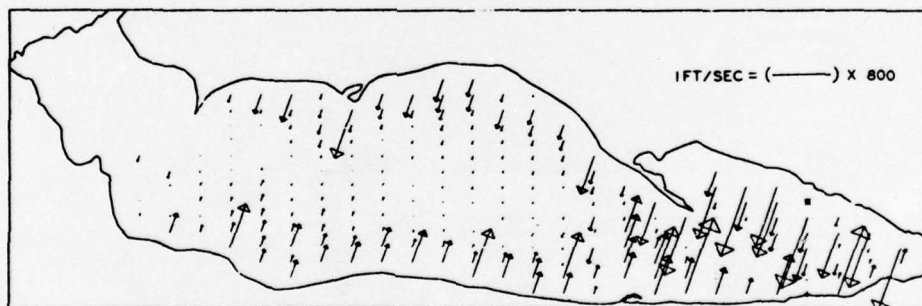
HORIZONTAL VELOCITIES AT
10-, 20-, 40-, AND 60-FT DEPTHS
WIND SPEED AND DIRECTION, 35MPH SSE



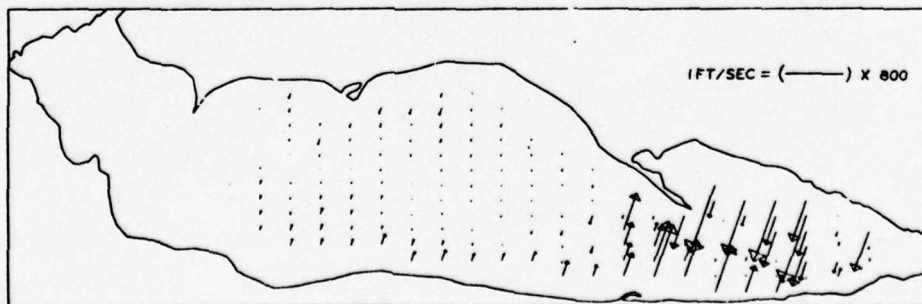
10-FT DEPTH



20-FT DEPTH

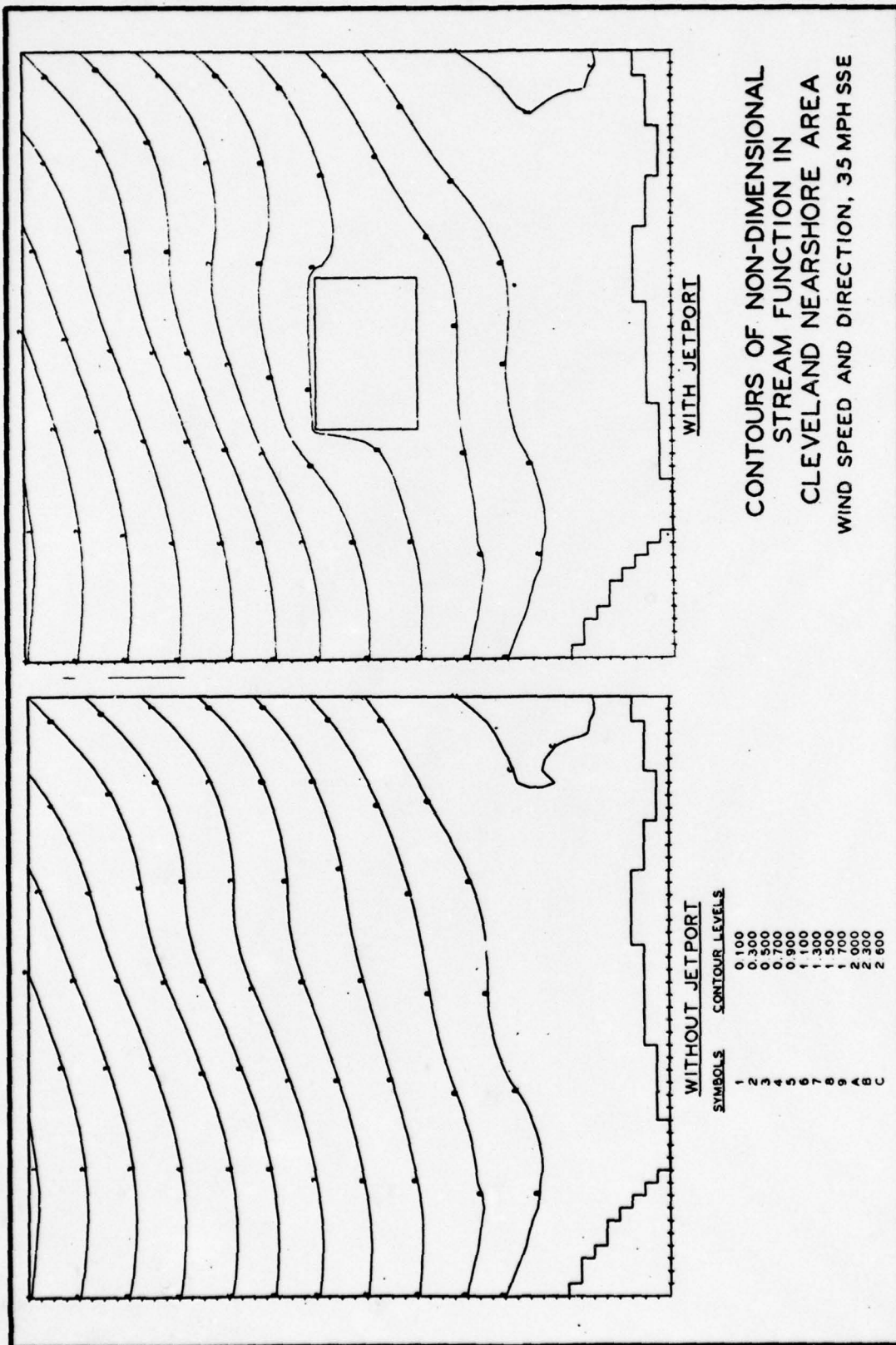


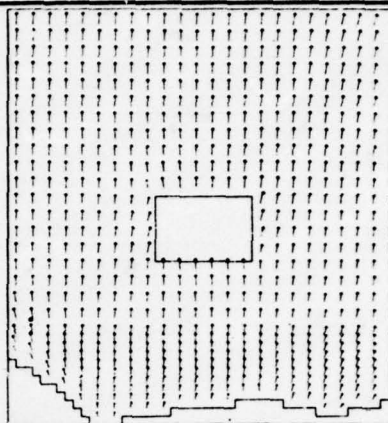
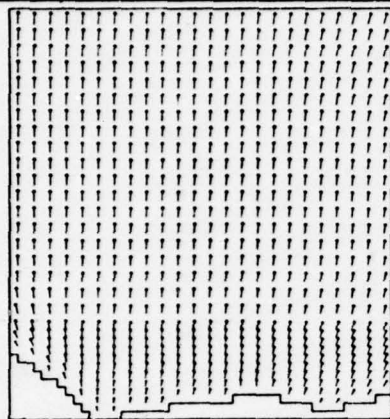
40-FT DEPTH



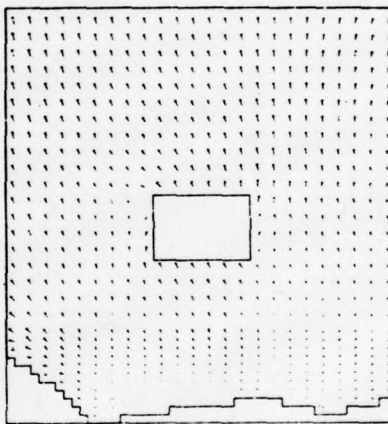
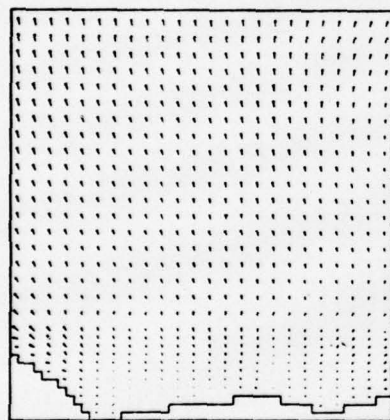
60-FT DEPTH

VERTICAL VELOCITIES AT
10-, 20-, 40-, AND 60-FT DEPTHS
WIND SPEED AND DIRECTION, 35 MPH SSE

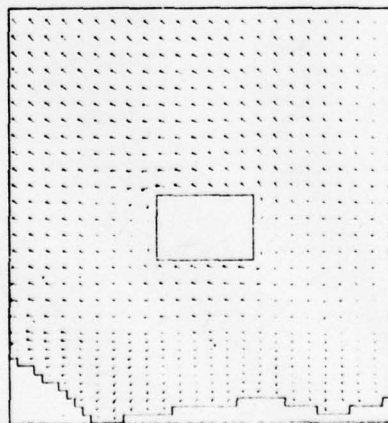
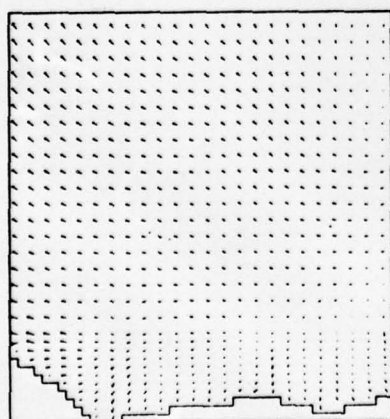




0-FT DEPTH
1 FT/SEC = (—)



10-FT DEPTH
1 FT/SEC = (—)

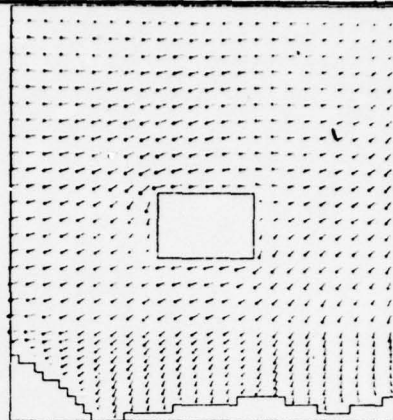
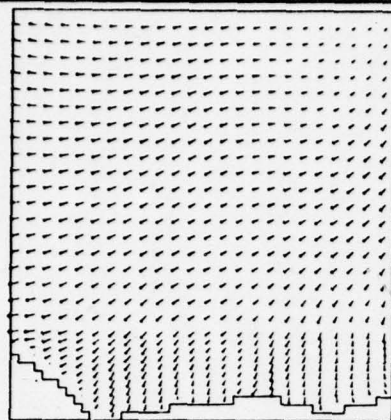


WITHOUT JETPORT

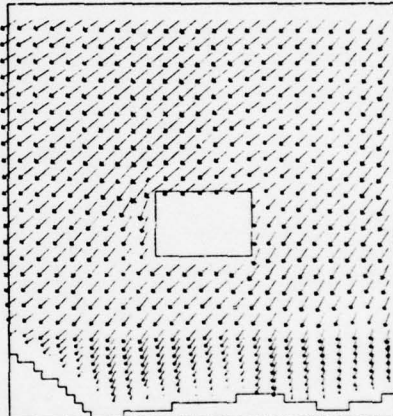
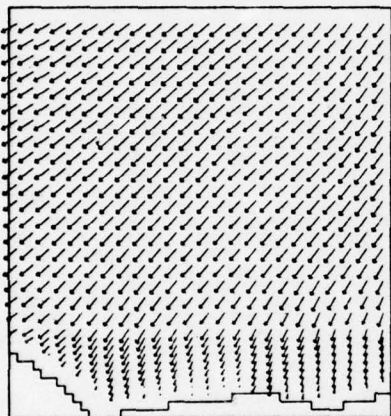
15-FT DEPTH
1 FT/SEC = (—)

WITH JETPORT

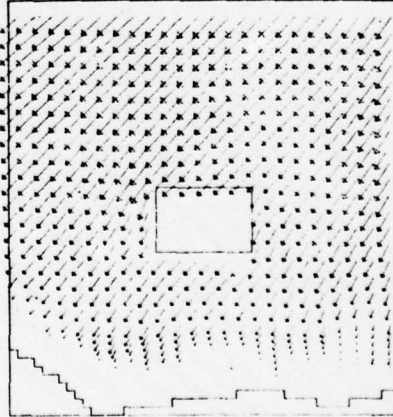
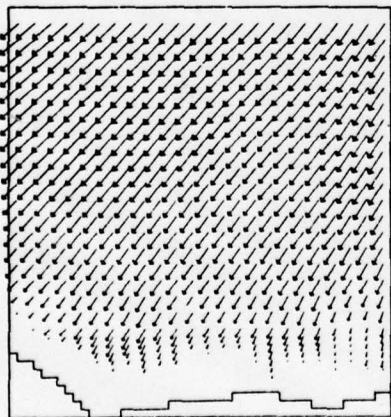
NEARSHORE HORIZONTAL VELOCITIES
AT 0-, 10-, AND 15-FT DEPTHS
WIND SPEED AND DIRECTION, 35 MPH SSE



20-FT DEPTH
1 FT/SEC = (→)



30-FT DEPTH
1 FT/SEC = (→)



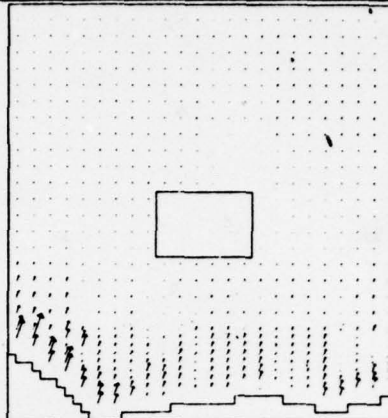
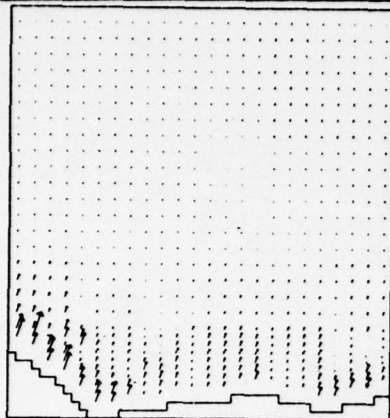
WITHOUT JETPORT

40-FT DEPTH
1 FT/SEC = (→)

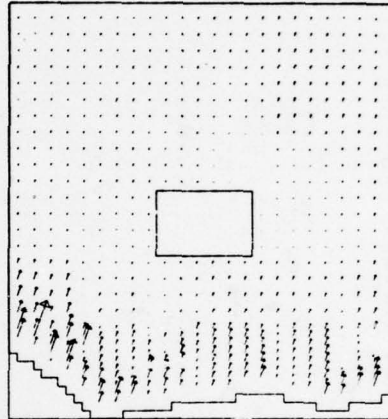
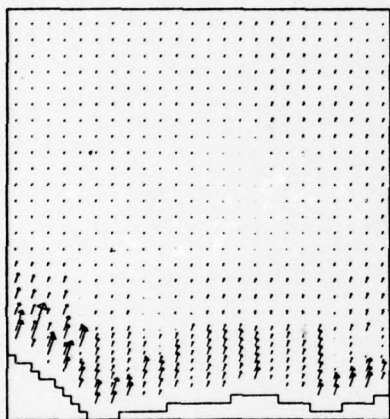
WITH JETPORT

NEARSHORE HORIZONTAL VELOCITIES
AT 20-, 30-, AND 40-FT DEPTHS

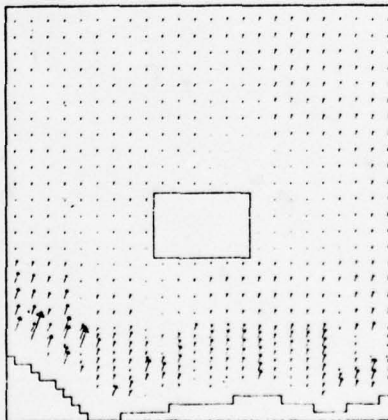
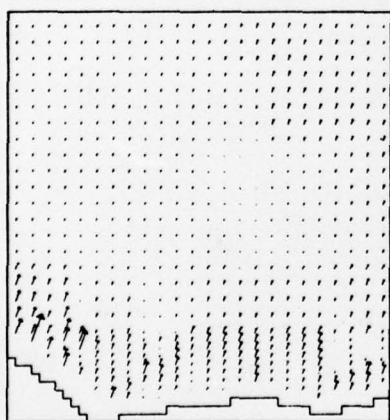
WIND SPEED AND DIRECTION, 35 MPH SSE



10-FT DEPTH
1 FT/SEC = (—) X 250



20-FT DEPTH
1 FT/SEC = (—) X 250

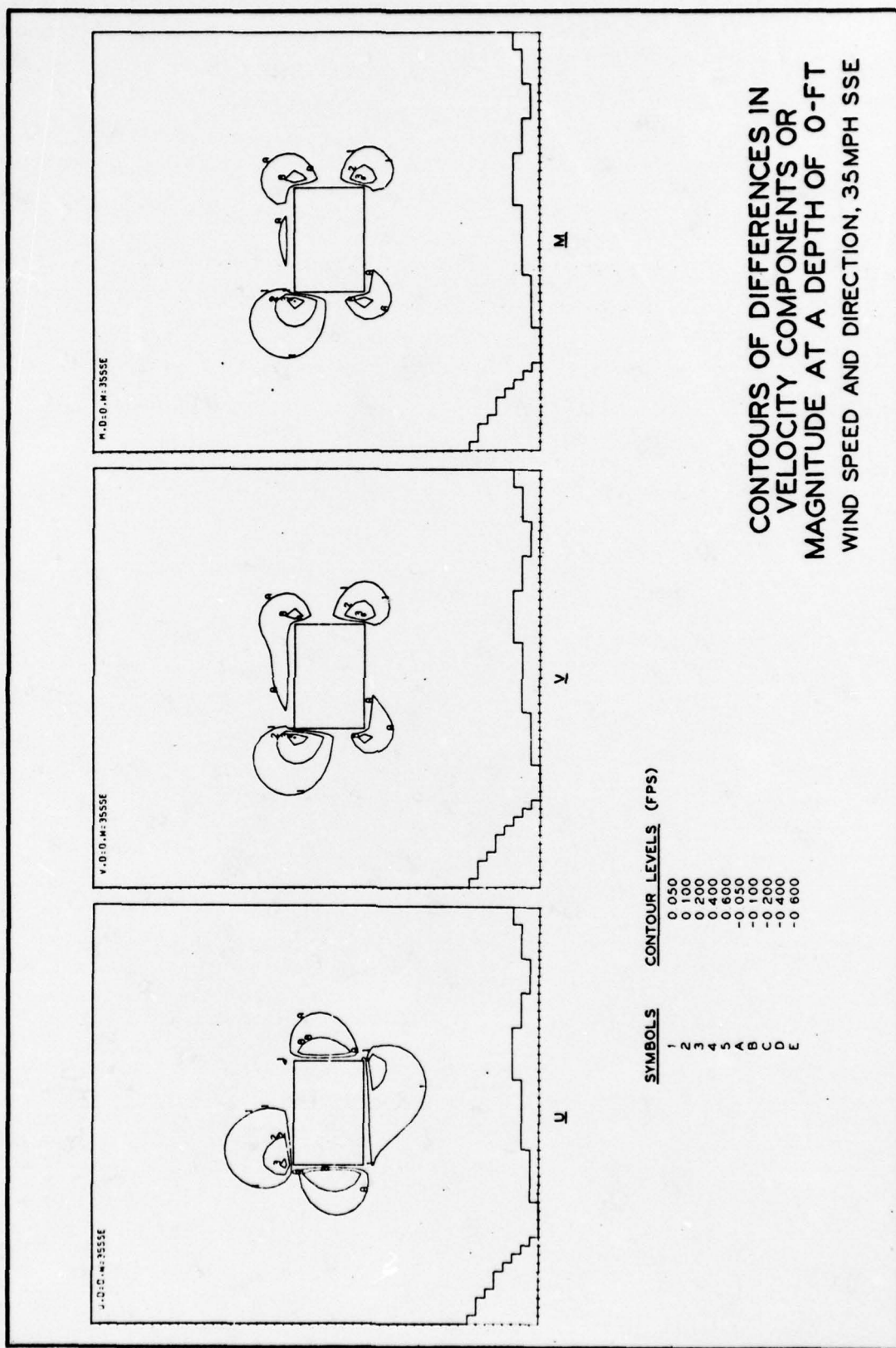


WITHOUT JETPORT

30-FT DEPTH
1 FT/SEC = (—) X 250

WITH JETPORT

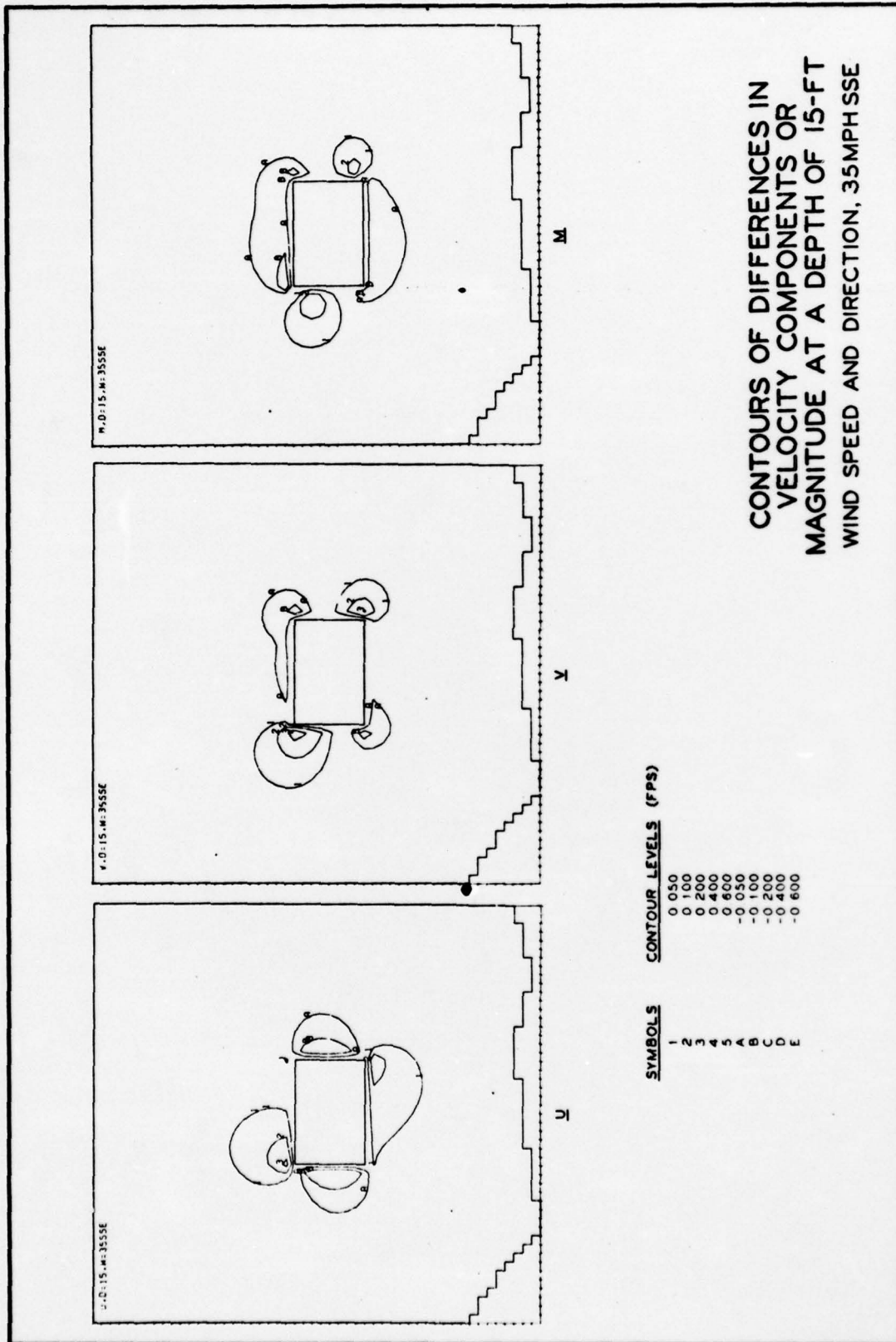
NEARSHORE VERTICAL VELOCITIES
AT 10-, 20-, AND 30-FT DEPTHS
WIND SPEED AND DIRECTION, 35 MPH SSE



SYMBOLS CONTOUR LEVELS (FPS)

1	0 050
2	0 100
3	0 200
4	0 400
5	0 600
A	-0 050
B	-0 100
C	-0 200
D	-0 400
E	-0 600

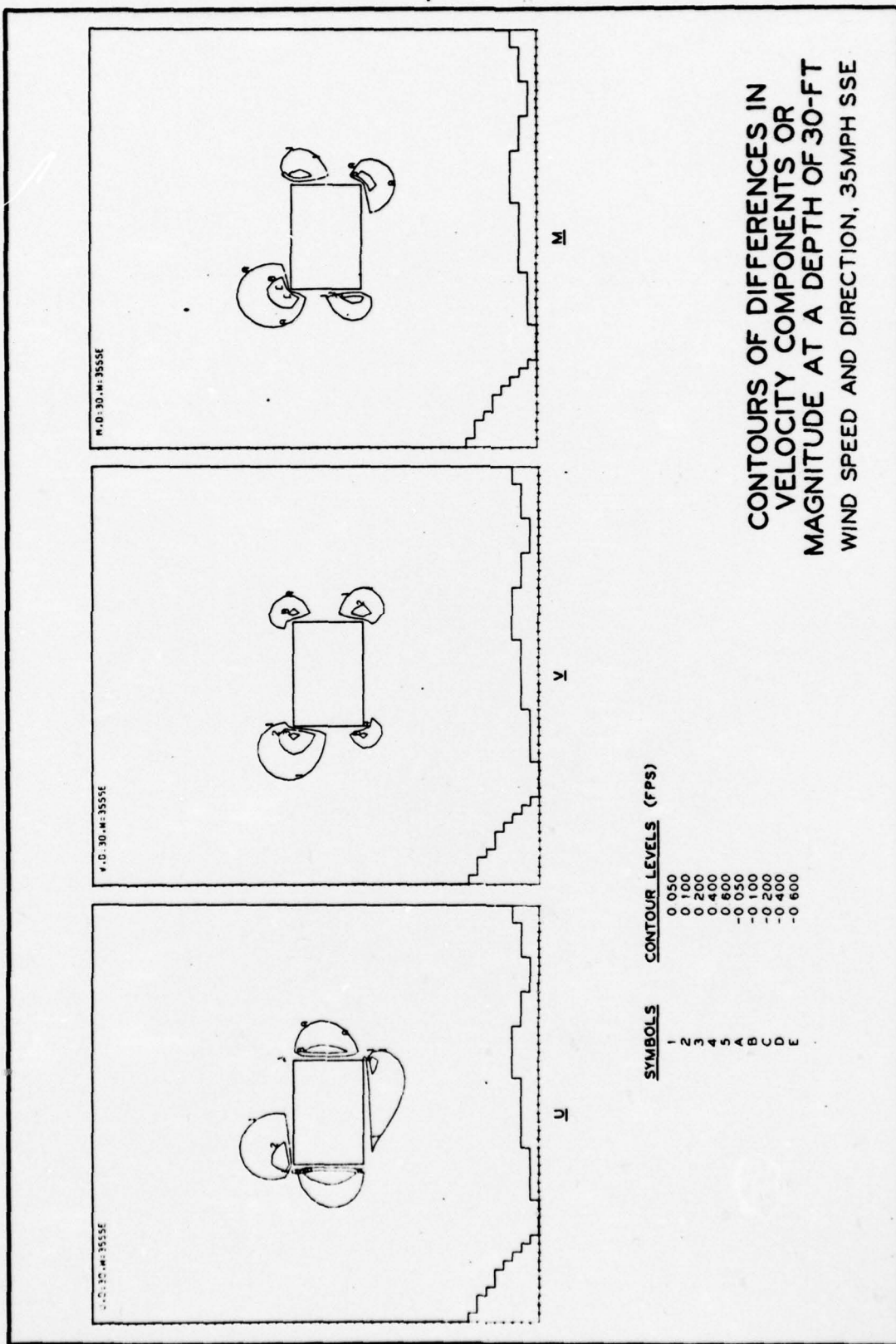
CONTOURS OF DIFFERENCES IN
VELOCITY COMPONENTS OR
MAGNITUDE AT A DEPTH OF 0-FT
WIND SPEED AND DIRECTION, 35MPH SSE



CONTOURS OF DIFFERENCES IN
VELOCITY COMPONENTS OR
MAGNITUDE AT A DEPTH OF 15-FT
WIND SPEED AND DIRECTION, 35MPH SSE

SYMBOLS CONTOUR LEVELS (FPS)

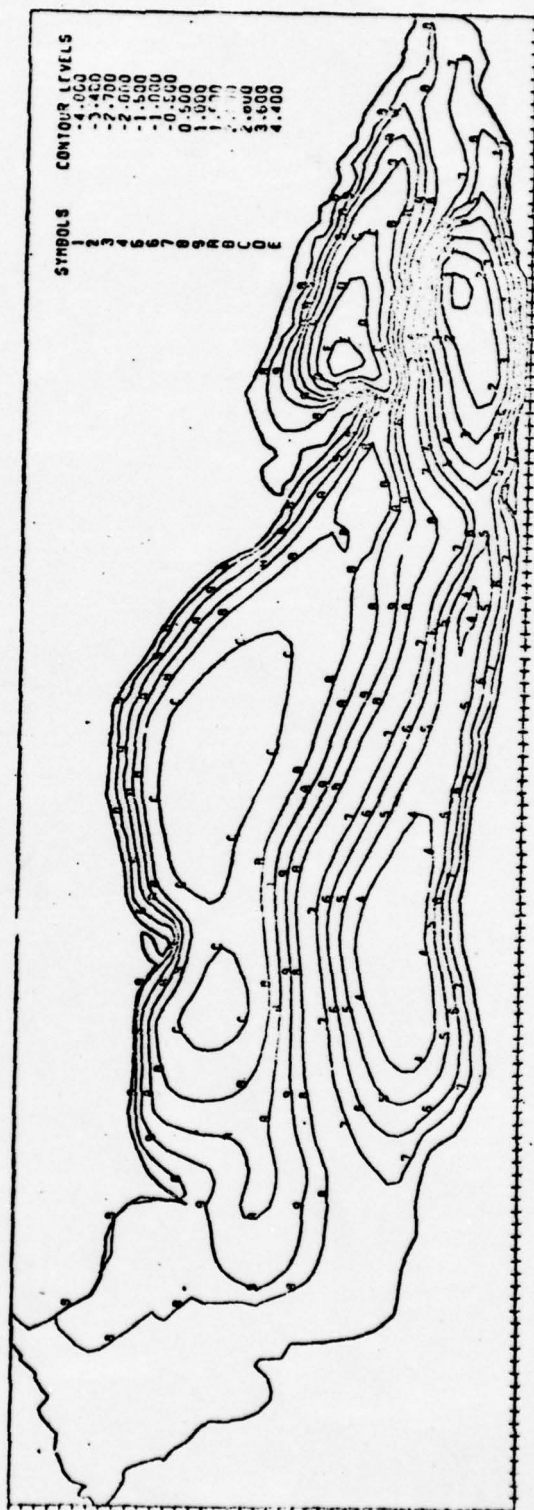
1	0 050
2	0 100
3	0 200
4	0 400
5	0 600
A	-0 050
B	-0 100
C	-0 200
D	-0 400
E	-0 600

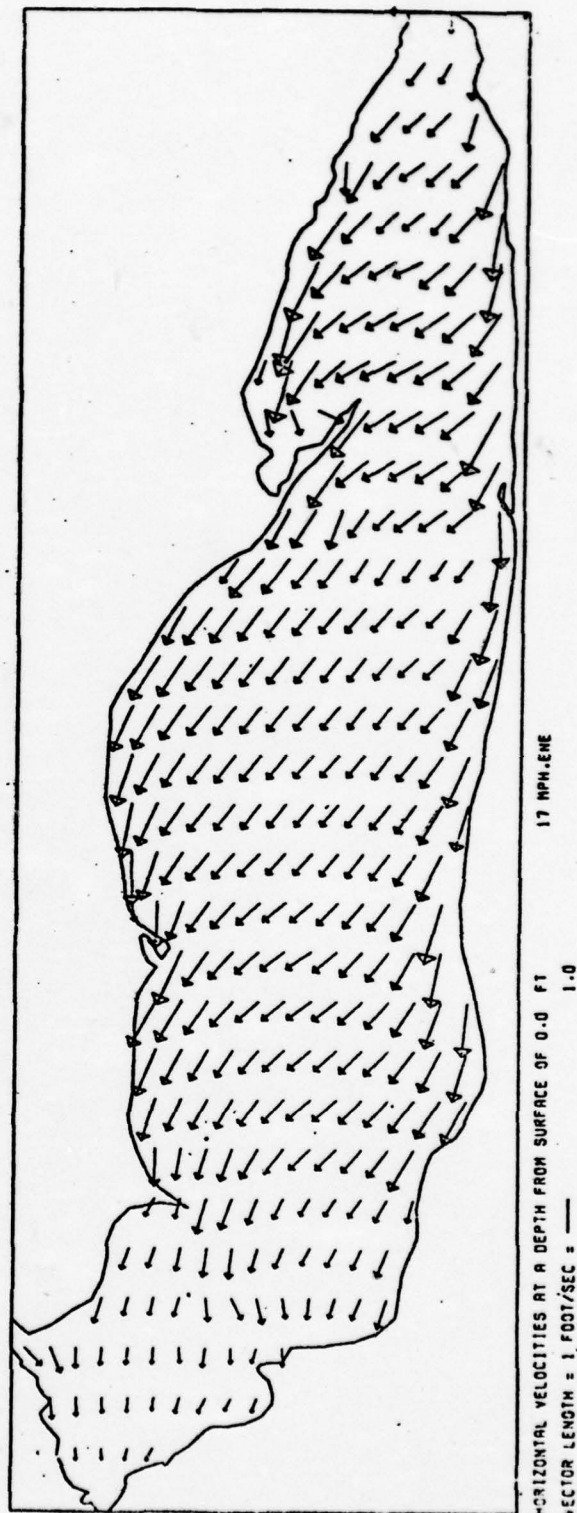


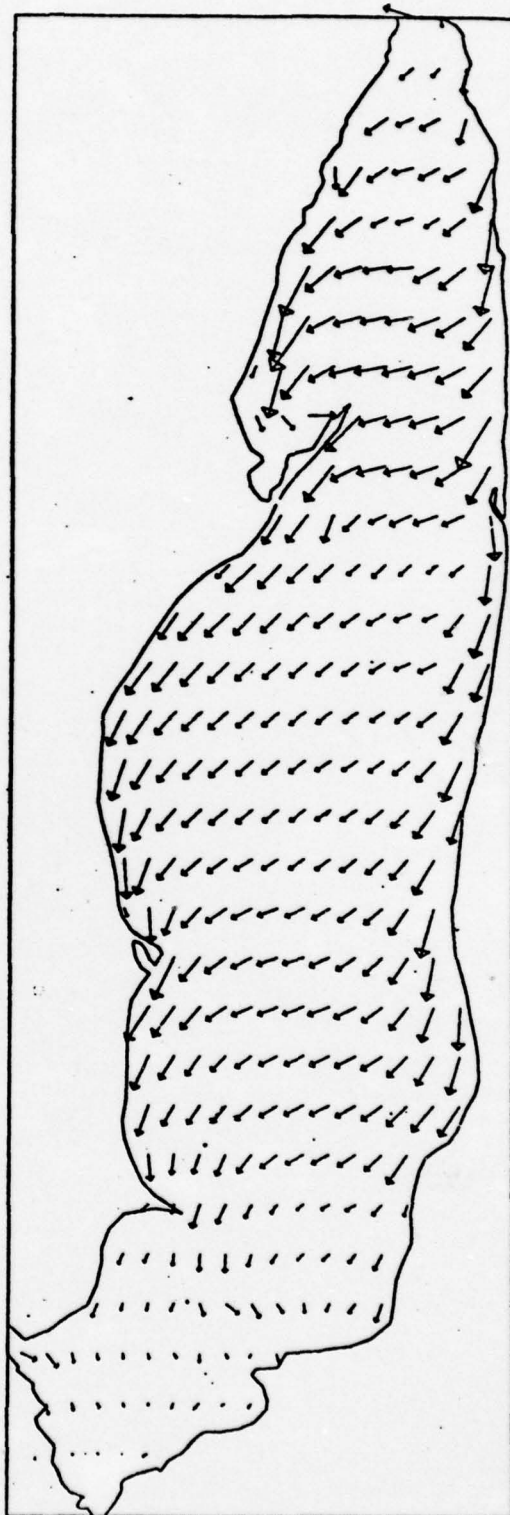
SYMBOLS	CONTOUR LEVELS (FPS)
1	0 050
2	0 100
3	0 200
4	0 400
5	0 600
A	-0 050
B	-0 100
C	-0 200
D	-0 400
E	-0 600

CONTOURS OF DIFFERENCES IN
VELOCITY COMPONENTS OR
MAGNITUDE AT A DEPTH OF 30-FT
WIND SPEED AND DIRECTION, 35MPH SSE

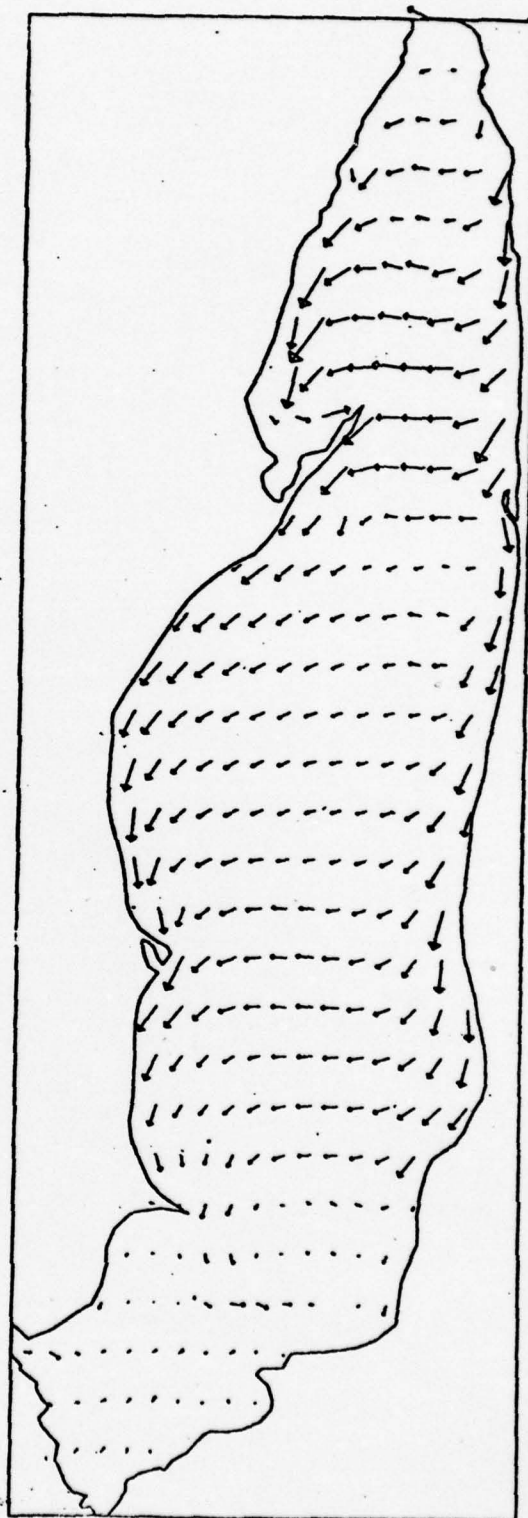
APPENDIX C: NUMERICAL RESULTS FOR
SEVEN WIND DIRECTIONS







HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 5.0 FT
VECTOR LENGTH = 1 FOOT/SEC = 1.0
17 MPH/ENE

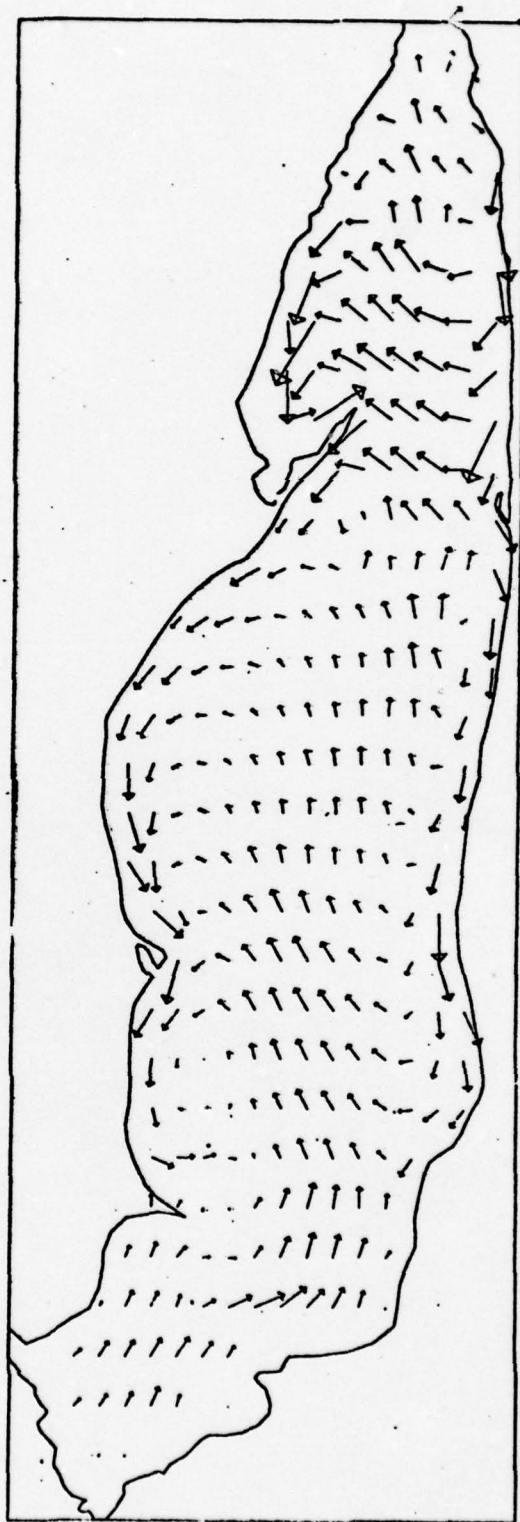


17 MPH,ENE

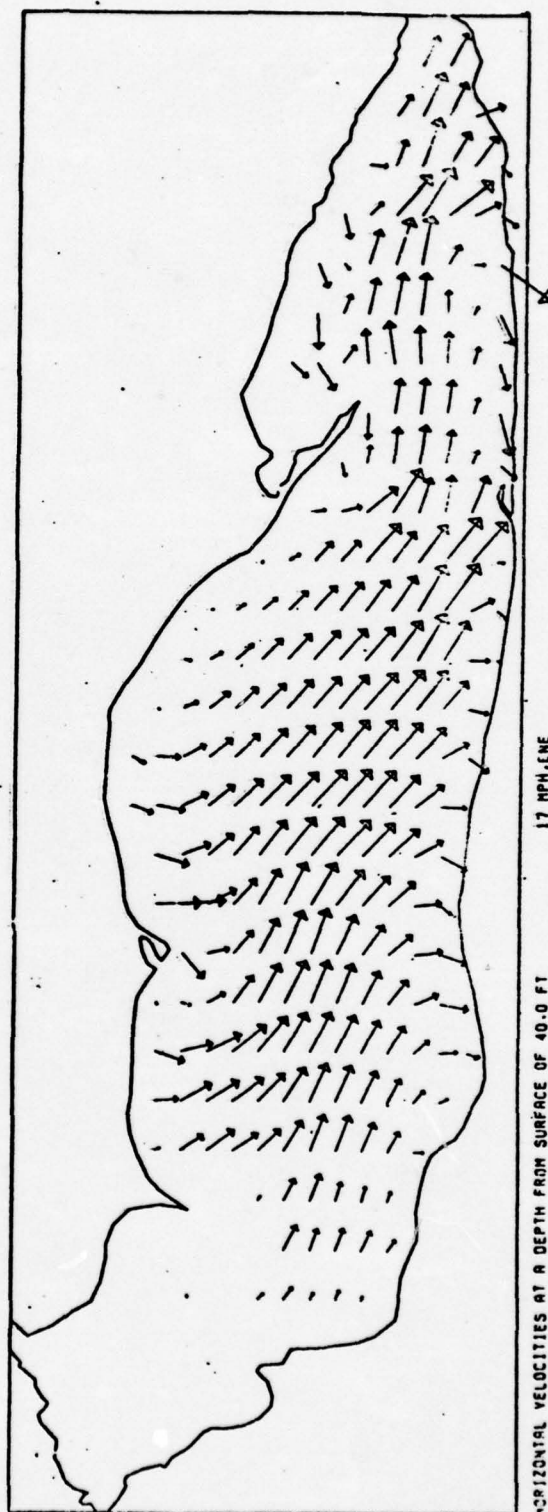
10.0

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 10.0 FT

VECTOR LENGTH = 1 FOOT/SEC = —

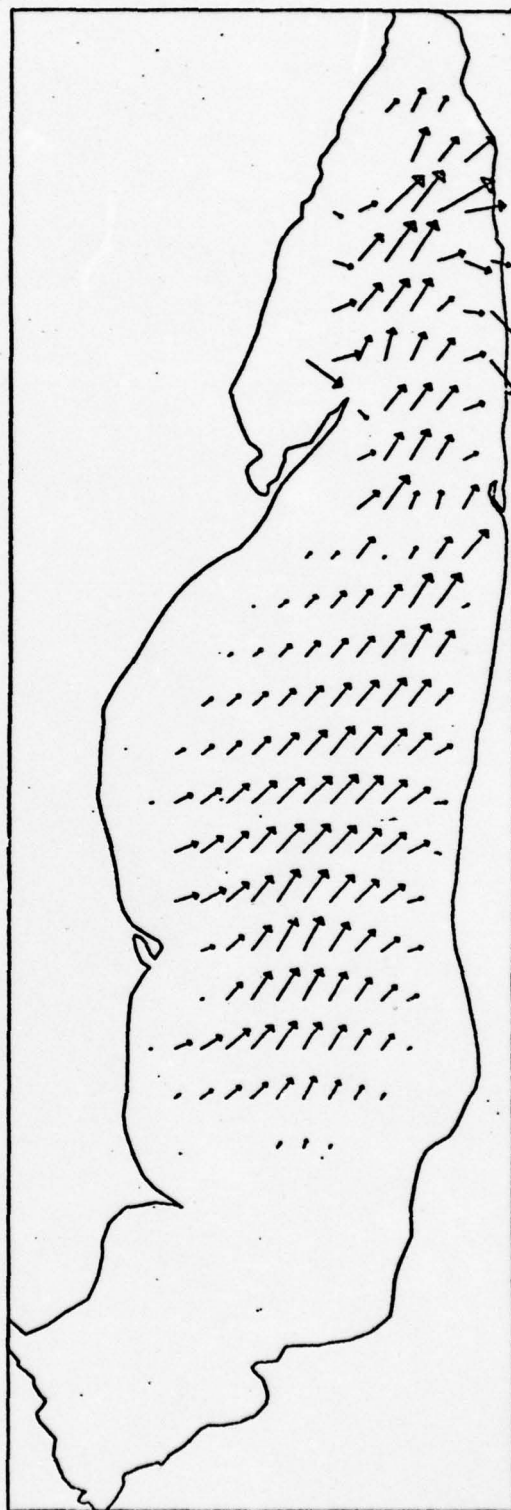


HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 20.0 FT
VECTOR LENGTH = 1 FOOT/SEC = 1.0
17 MPH/SEC



17 MPH, ENE

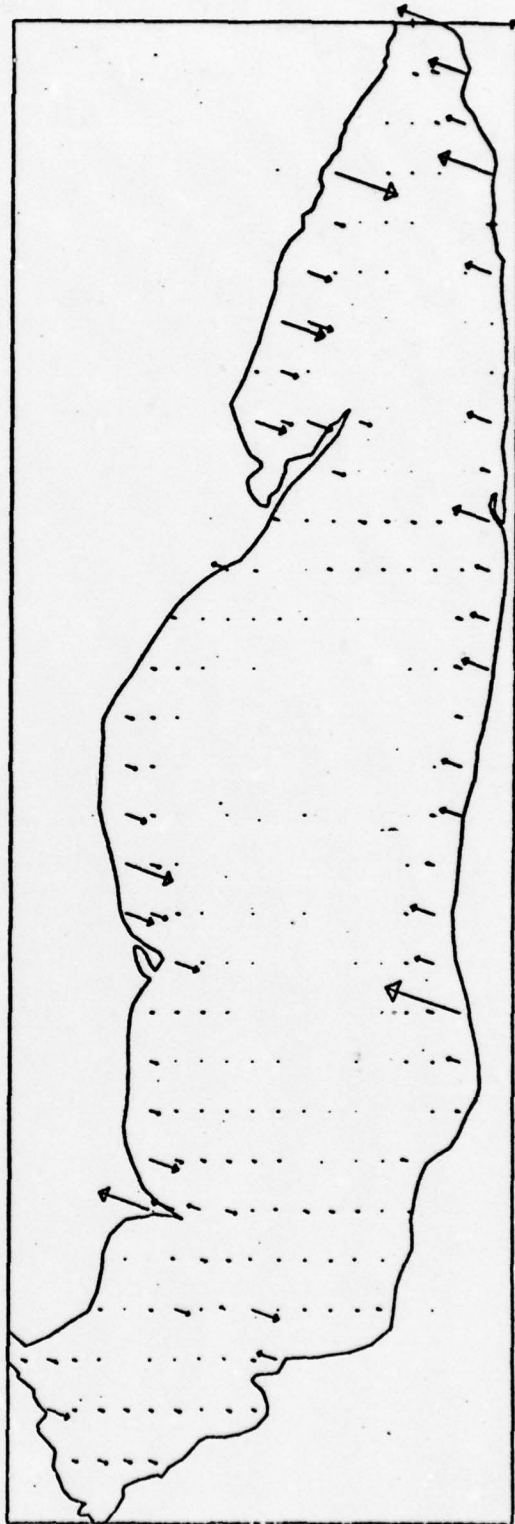
HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 40.0 FT
VECTOR LENGTH = 1 FOOT/SEC = 1.0



17 MPH,ENE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 60.0 FT

VECTOR LENGTH = 1.00T/SEC = 1.0



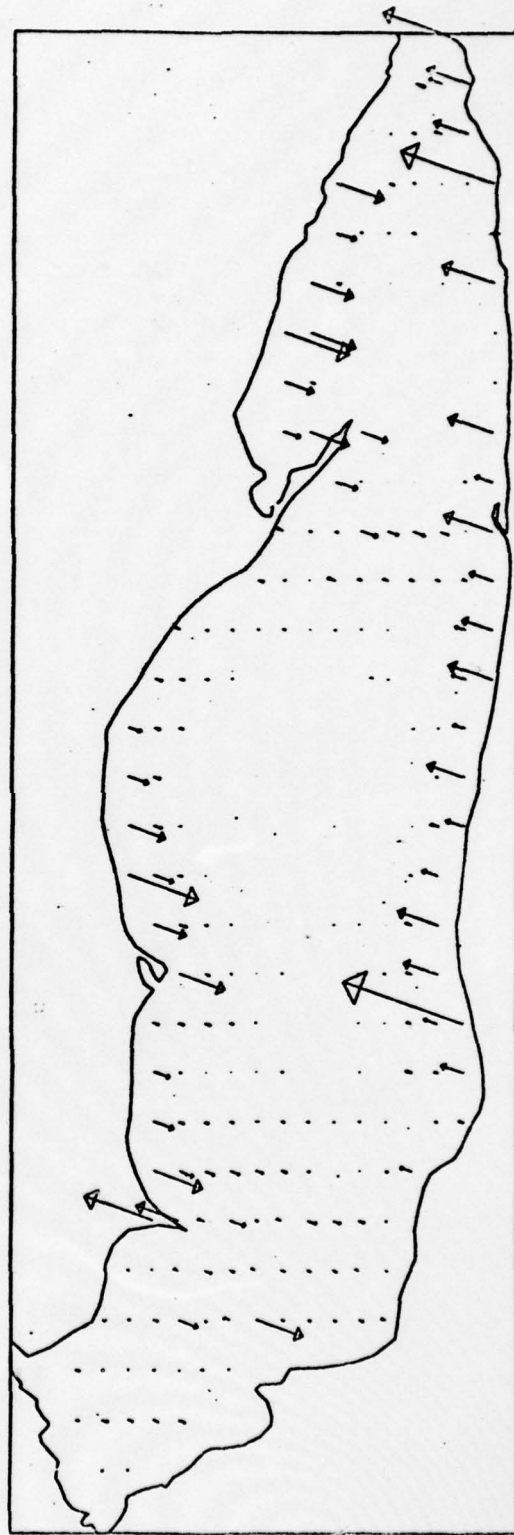
17 MPH/ENE

10.0 FT

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

1200.0

VECTOR LENGTH = 1. FOOT/SEC =

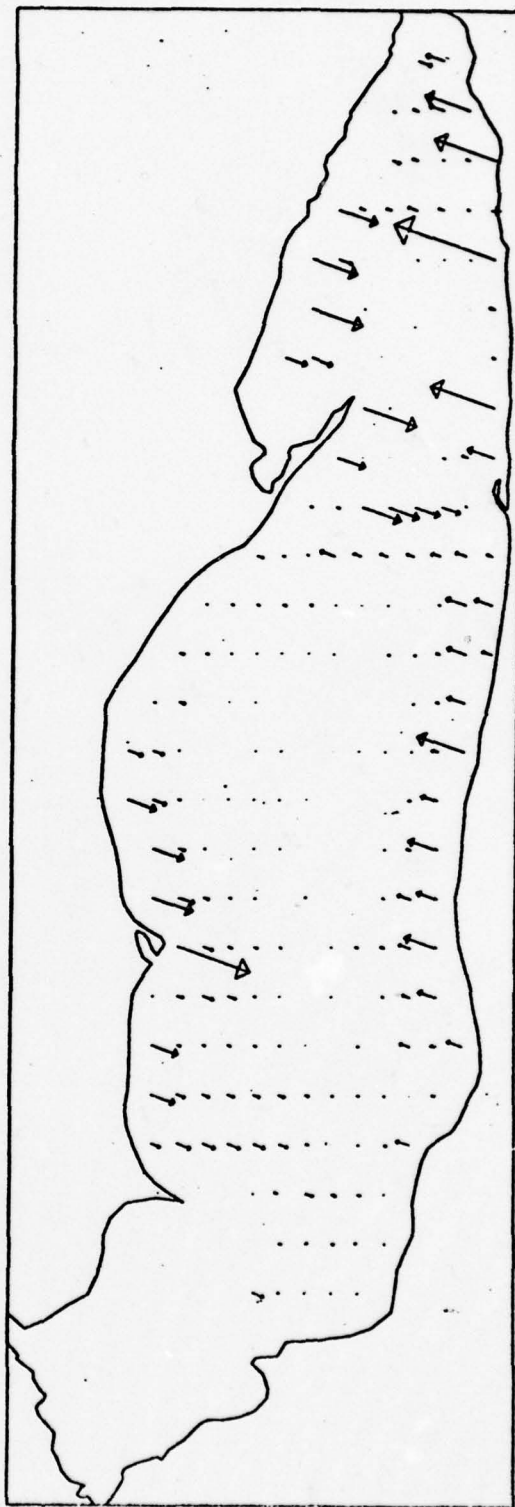


17 MPH·ENE

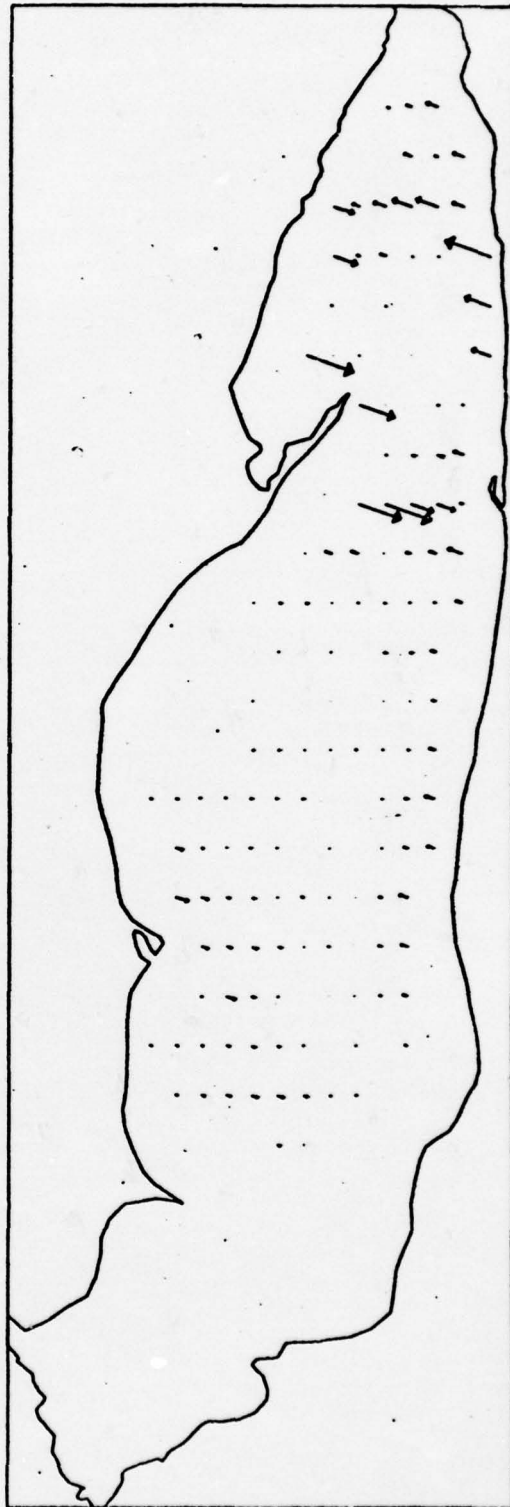
20.0 FT

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

VECTOR LENGTH = 1 FOOT/SEC =



VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF 40.0 FT 17 MPH/ENE
VECTOR LENGTH = 1 FOOT/SEC = 1200.0



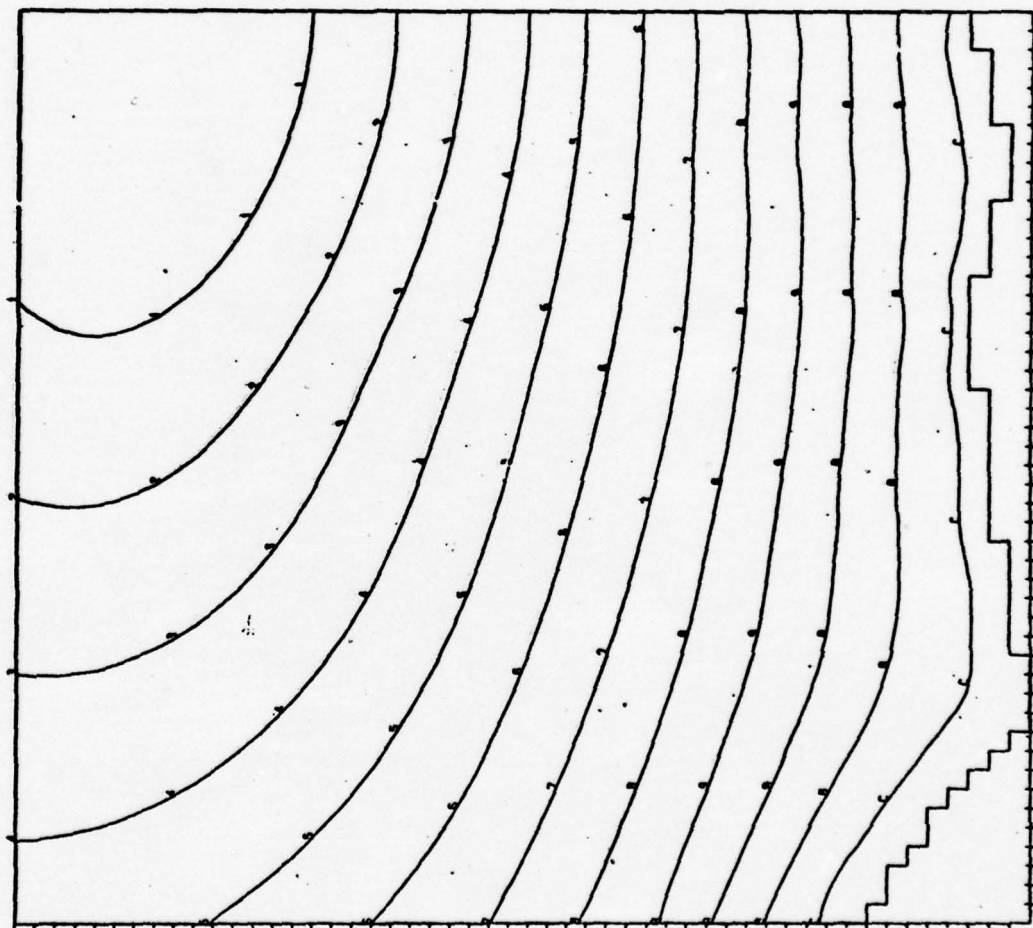
17 MPH,ENE

60.0 FT

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

1200.0

VECTOR LENGTH = 1 FOOT/SEC =

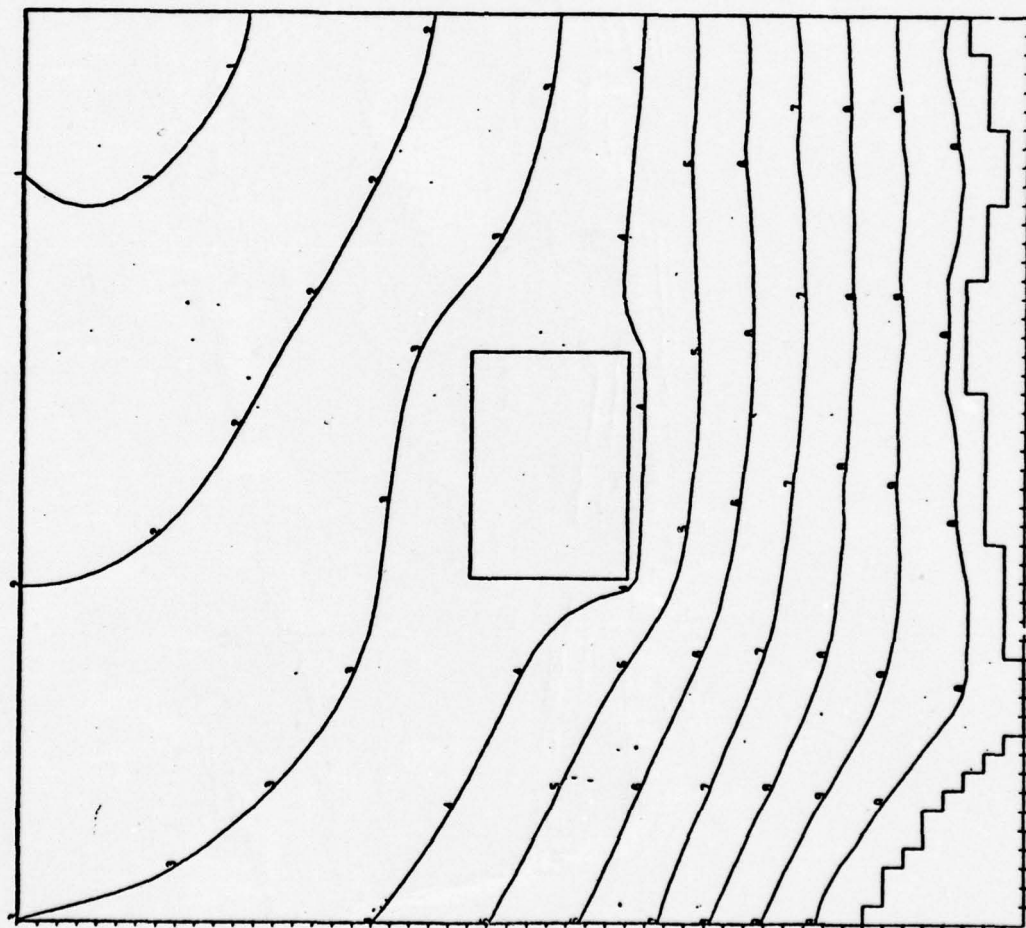


SYMBOLS
 ————

CONTOUR LEVELS
 -2.300
 -2.100
 -1.900
 -1.700
 -1.500
 -1.300
 -1.100
 -0.900
 -0.700
 -0.500
 -0.300
 -0.100

CONTOURS OF STREAM FUNCTION FOR LAKE ERIE -- NEARSHORE

WR=17MPH,ENE

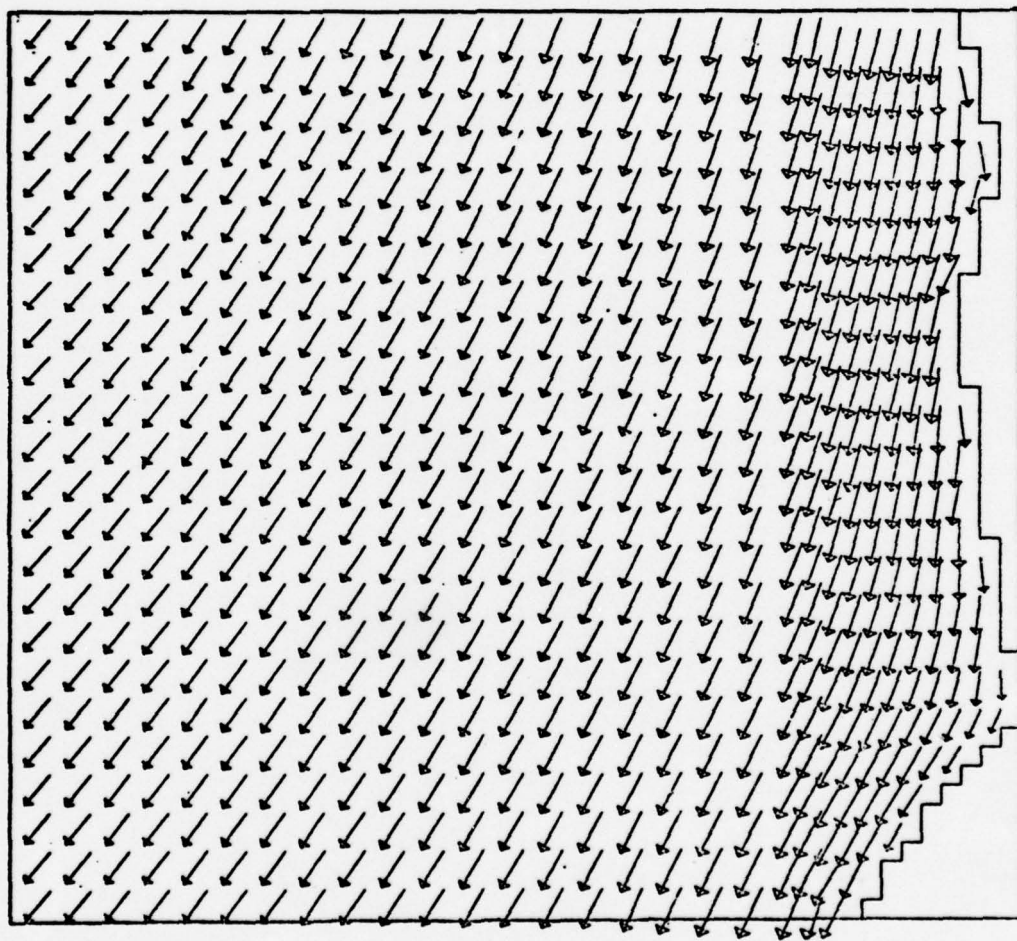


SYMBOLS
 1 2 3 4 5 6 7 8 9

CONTOUR LEVELS
 -2.400
 -2.000
 -1.600
 -1.300
 -1.100
 -0.900
 -0.700
 -0.500
 -0.300
 -0.100

CONTOURS OF STREAM FUNCTION FOR LAKE ERIE -- NEARSHORE

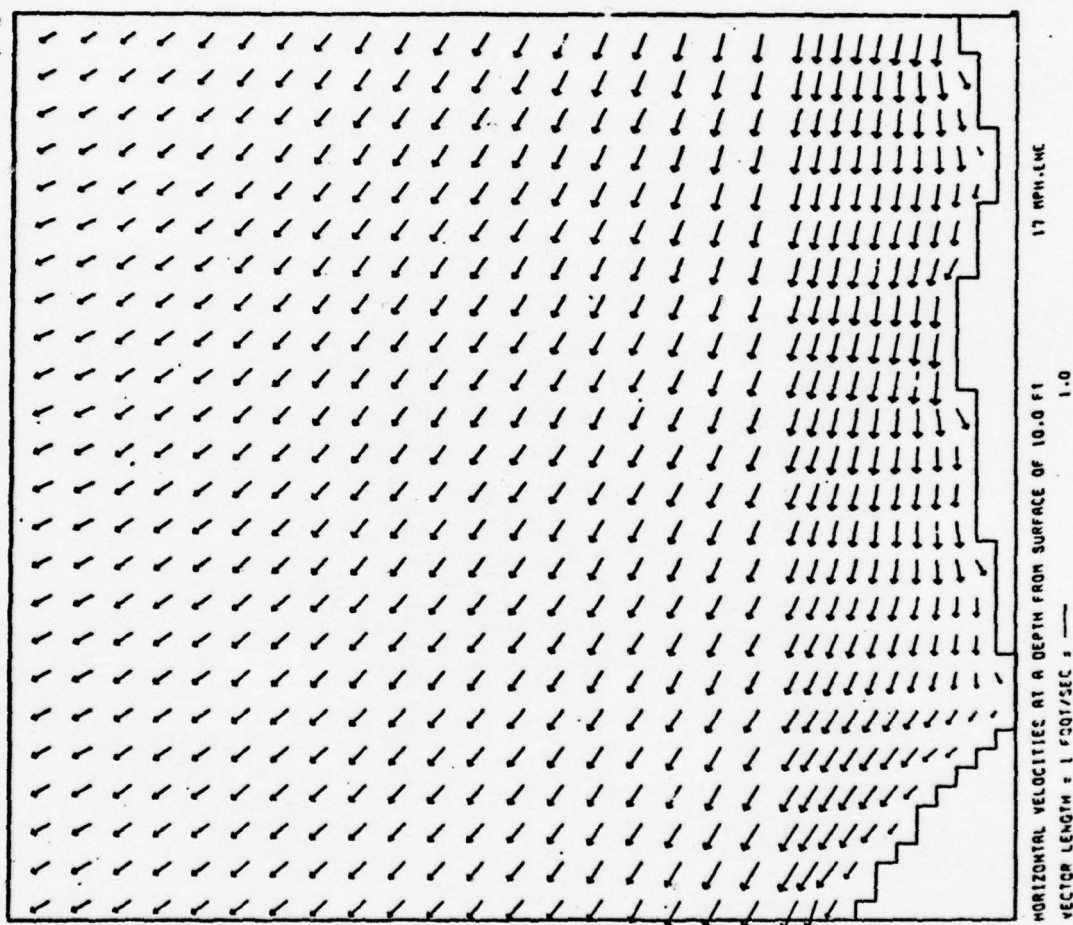
WA=17MPH+ENE

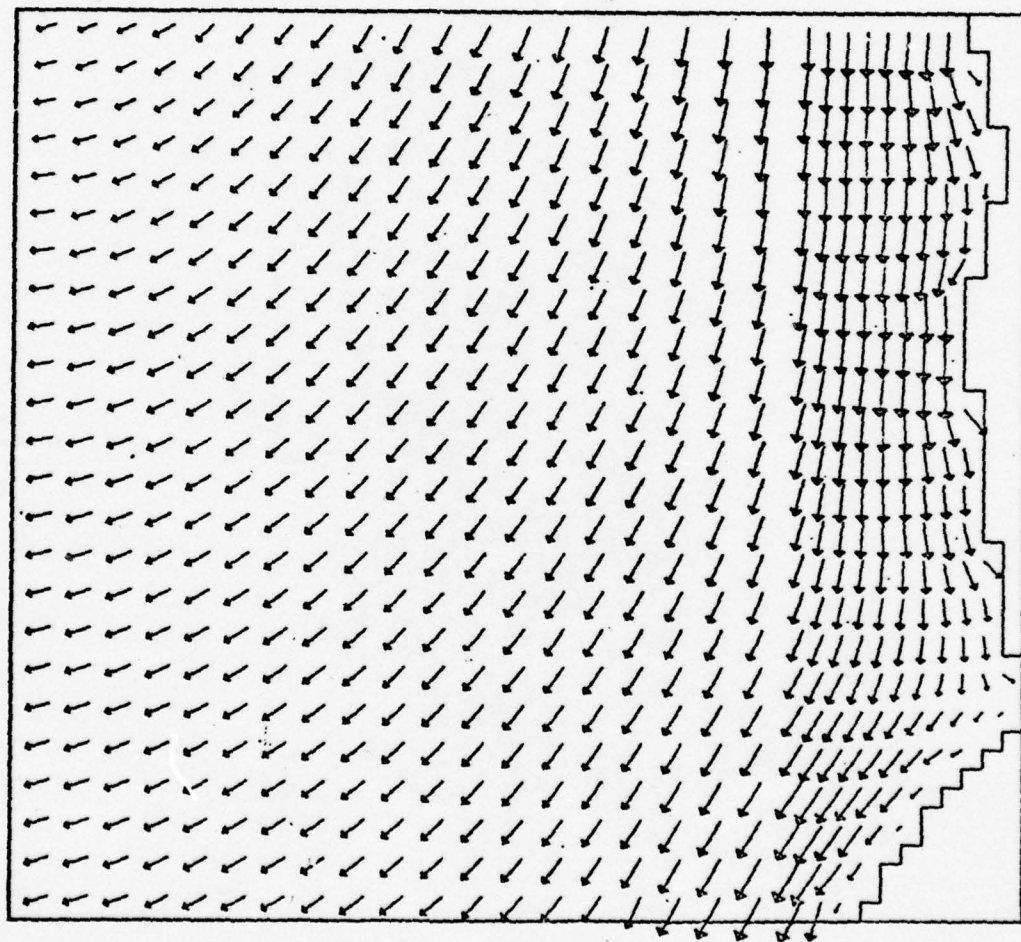


17 MPH.ENE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 0.0 FT

VECTOR LENGTH = 1 FOOT/SEC = 1.0



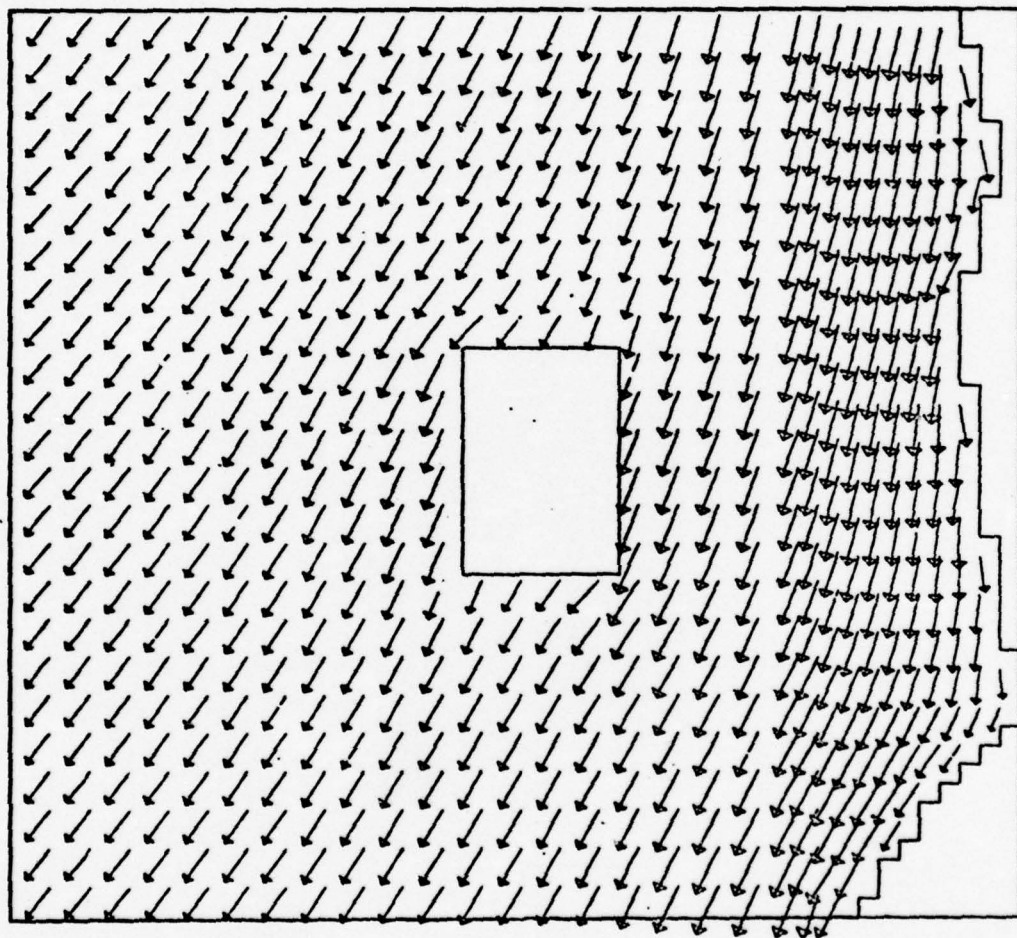


17 MPH-ENE

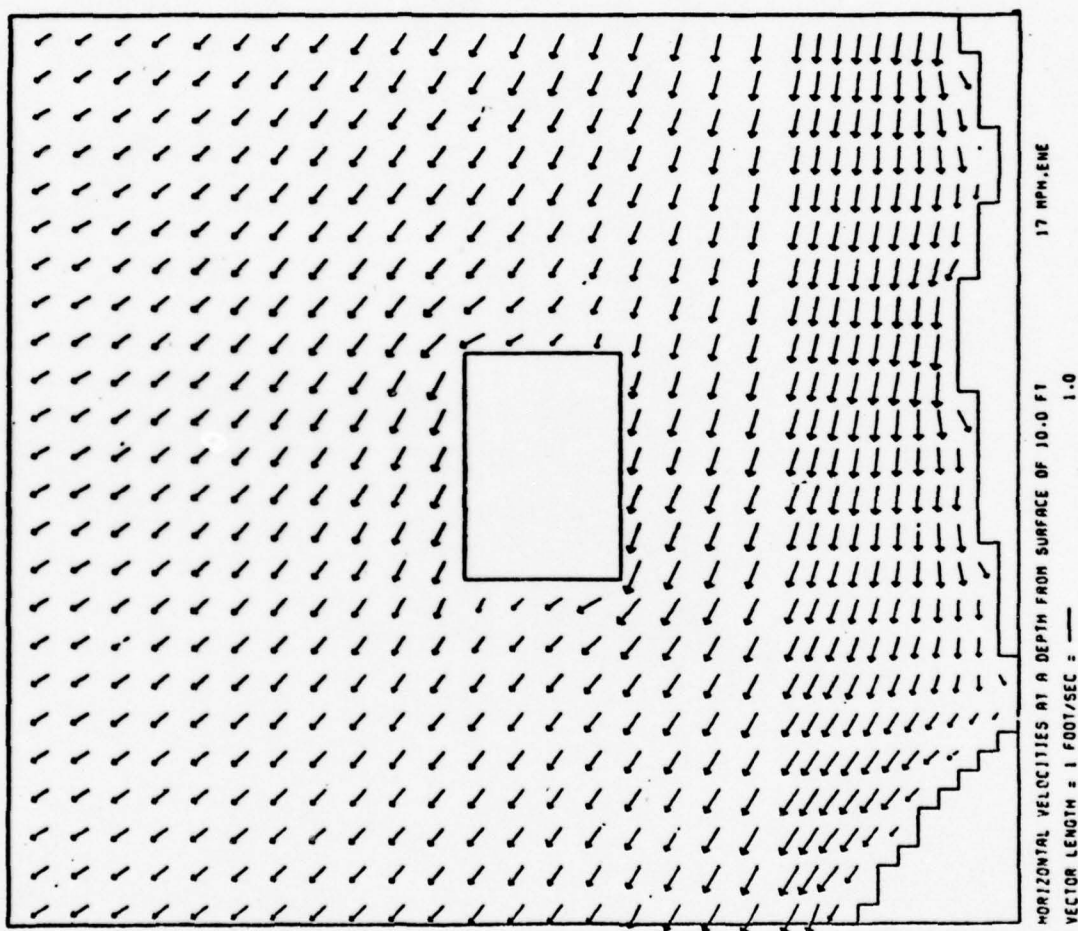
HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 15.0 FT

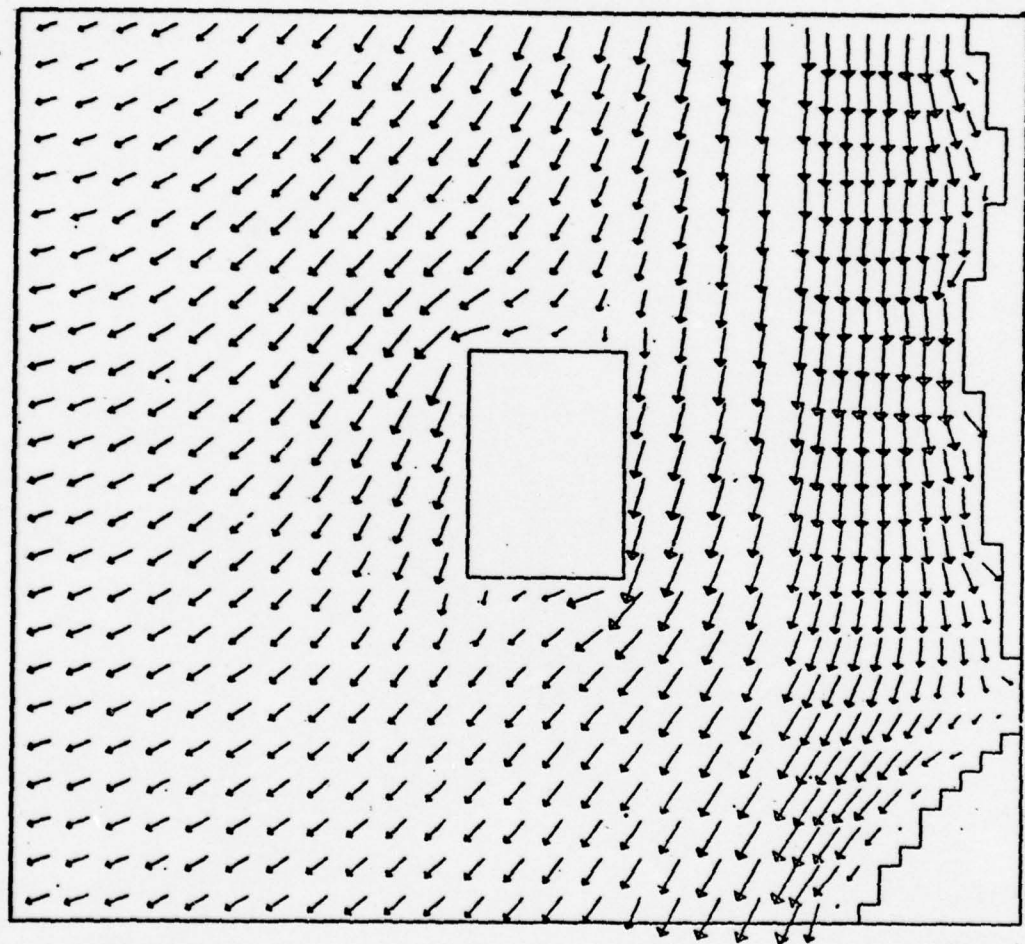
VECTOR LENGTH = 1 FOOT/SEC = _____

1.0



HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 0.0 FT
VECTOR LENGTH = 1 FOOT/SEC = — 1.0
17 MPH/SEC

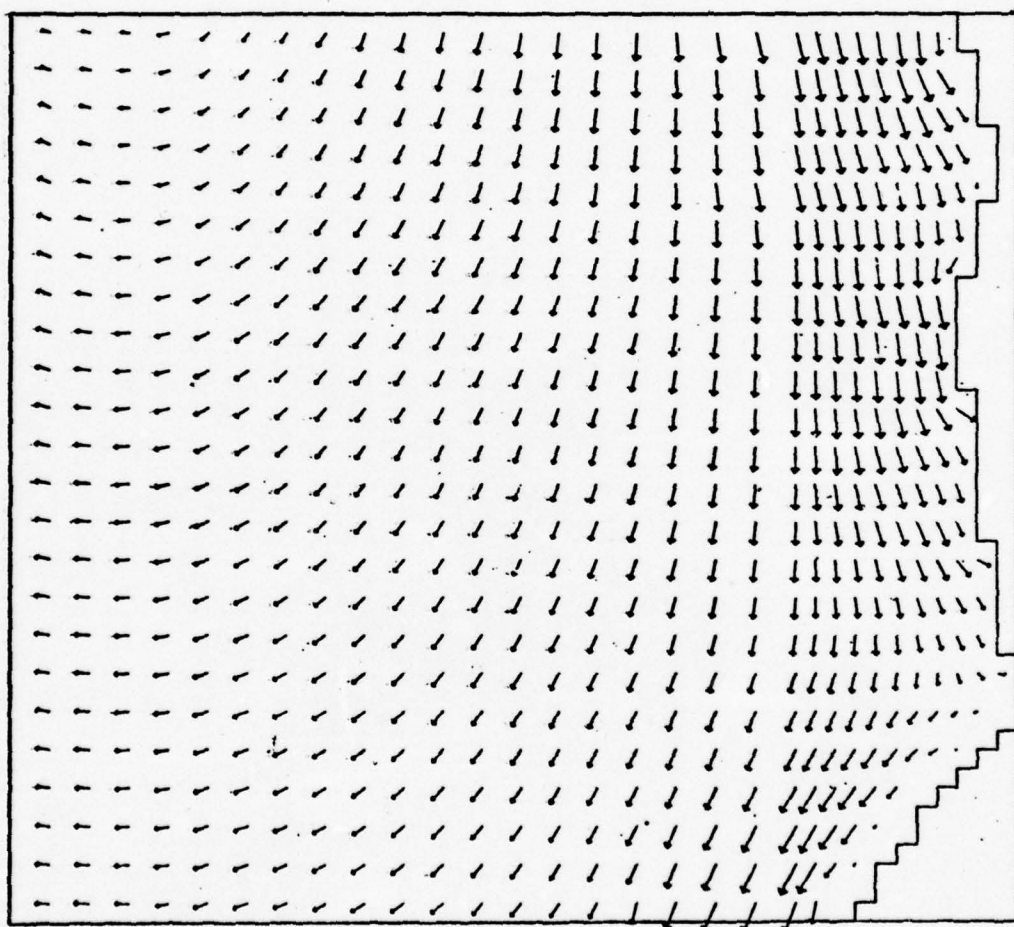




17 MPH.ENE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 15.0 FT

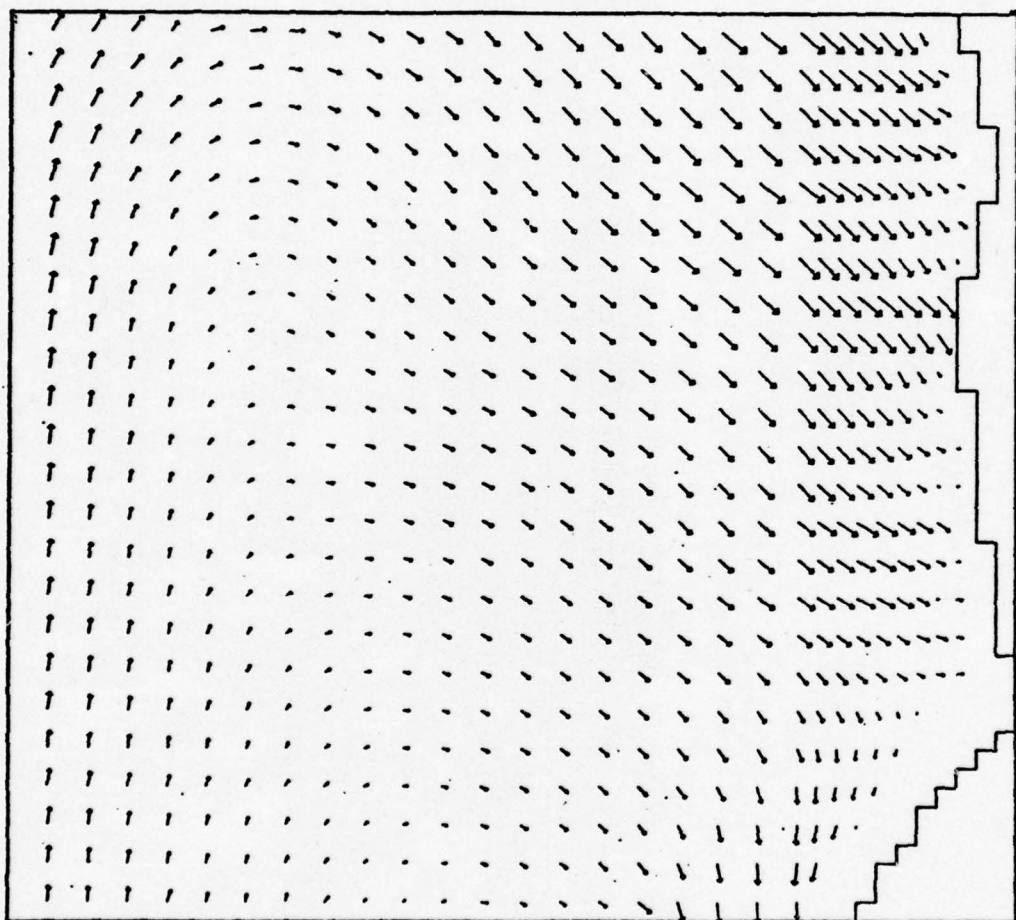
VECTOR LENGTH = 1 FOOT/SEC = 1.0



17 MPH·ENE

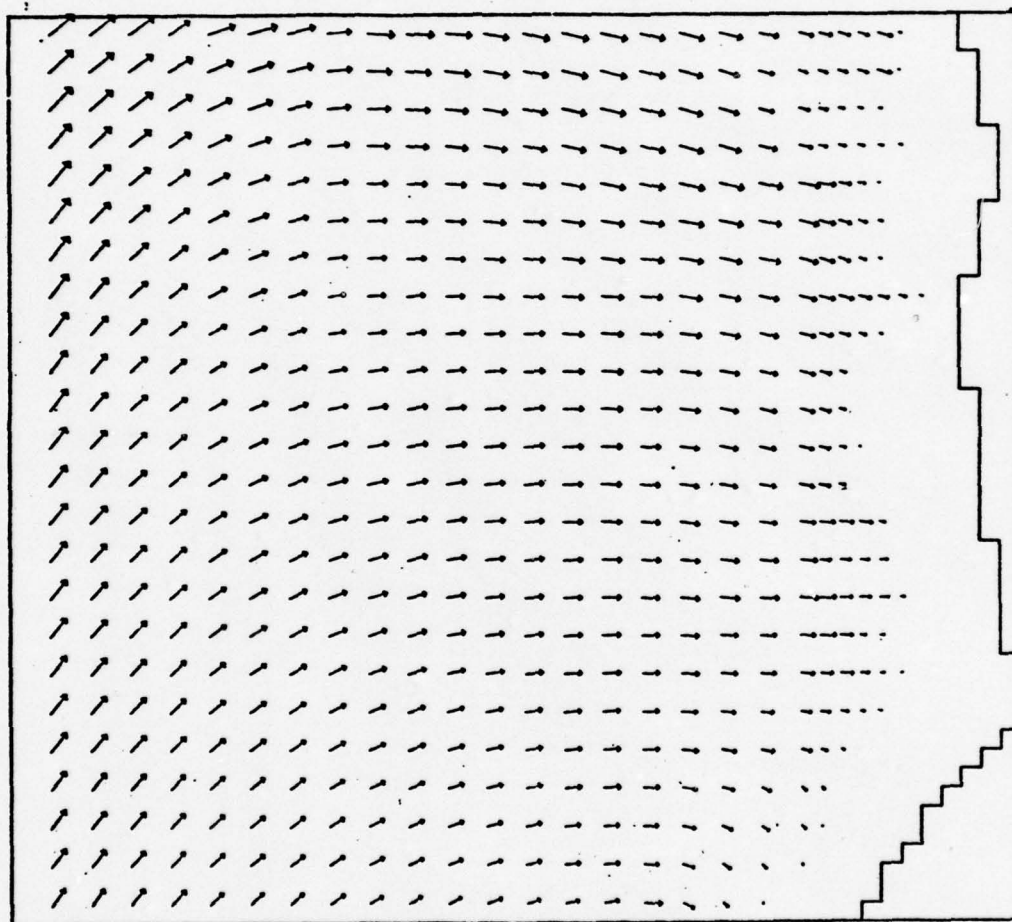
HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 20.0 FT

VECTOR LENGTH = 1 FOOT/SEC = 1.0



17 MPH.ENE

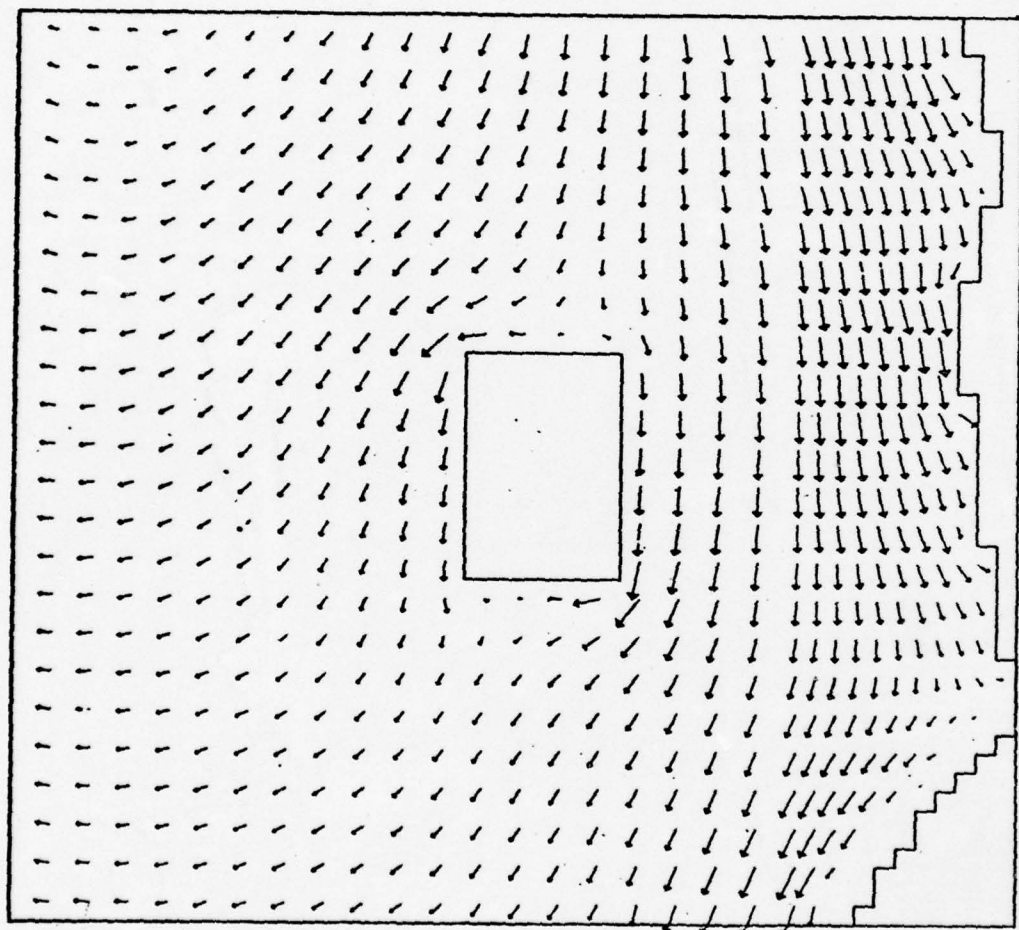
HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 30.0 FT
VECTOR LENGTH = 1 FOOT/SEC = 1.0



17 MPH/ENE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 40.0 FT

VECTOR LENGTH = 1 FOOT/SEC = 1.0

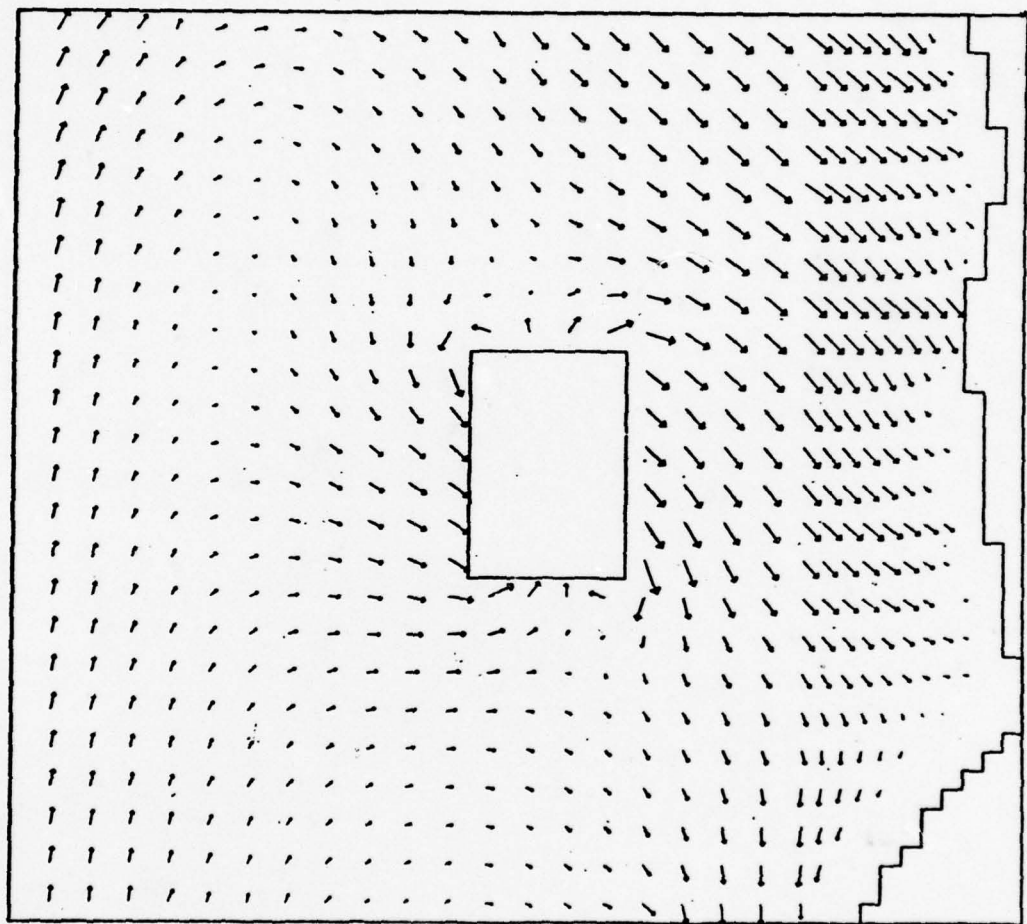


17 MPH.ENE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 20.0 FT

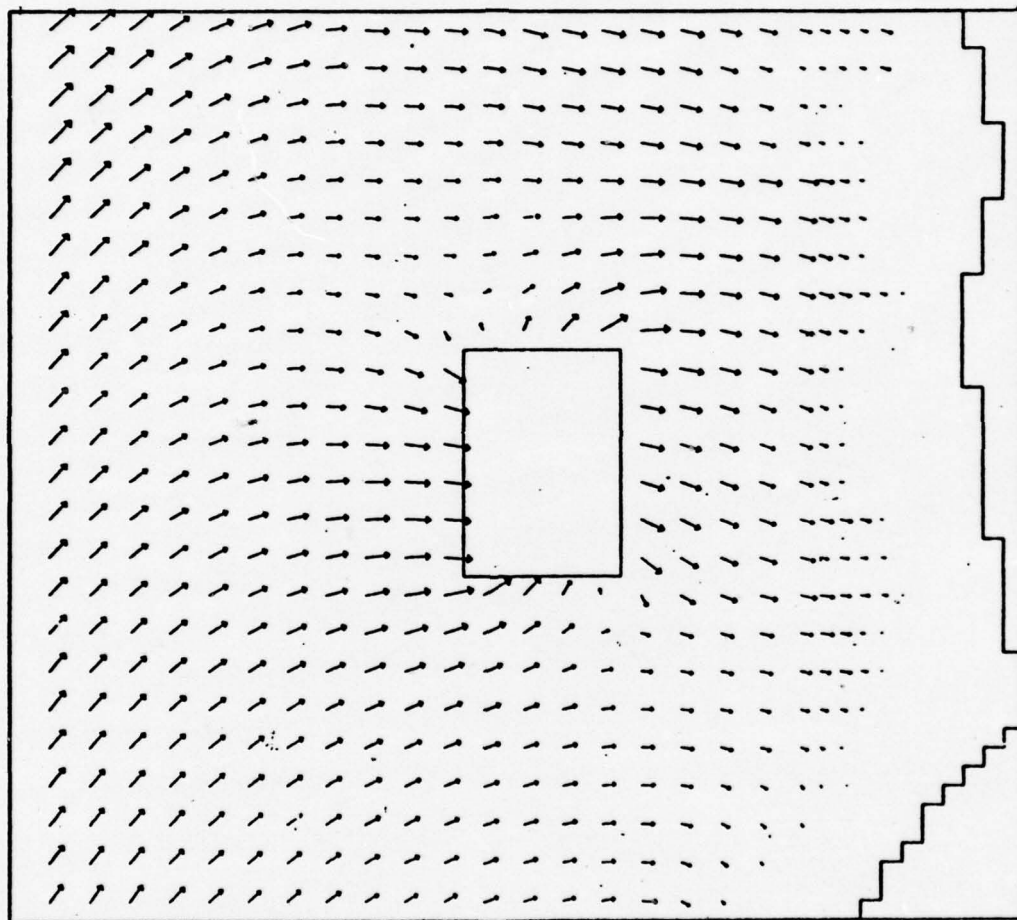
1.0

VECTOR LENGTH = 1 FOOT/SEC =



17 MPH,ENE

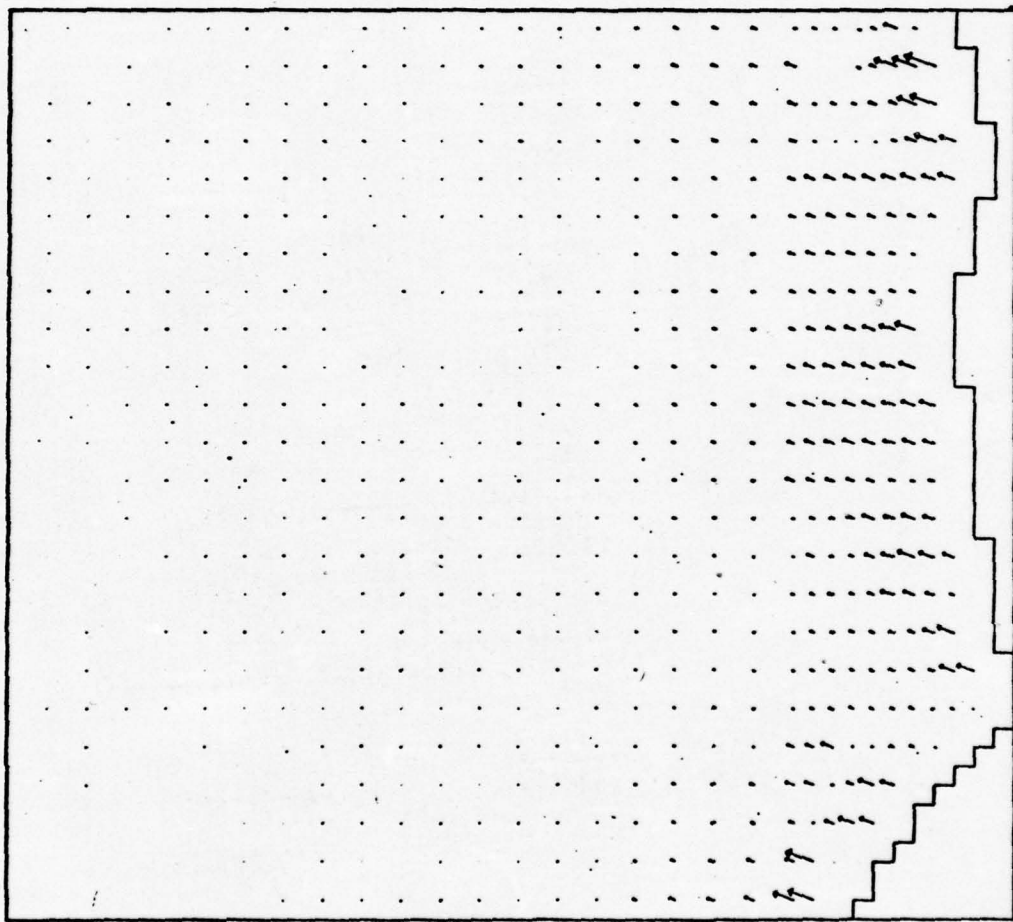
HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 30.0 FT
VECTOR LENGTH = 1 FOOT/SEC = 1.0



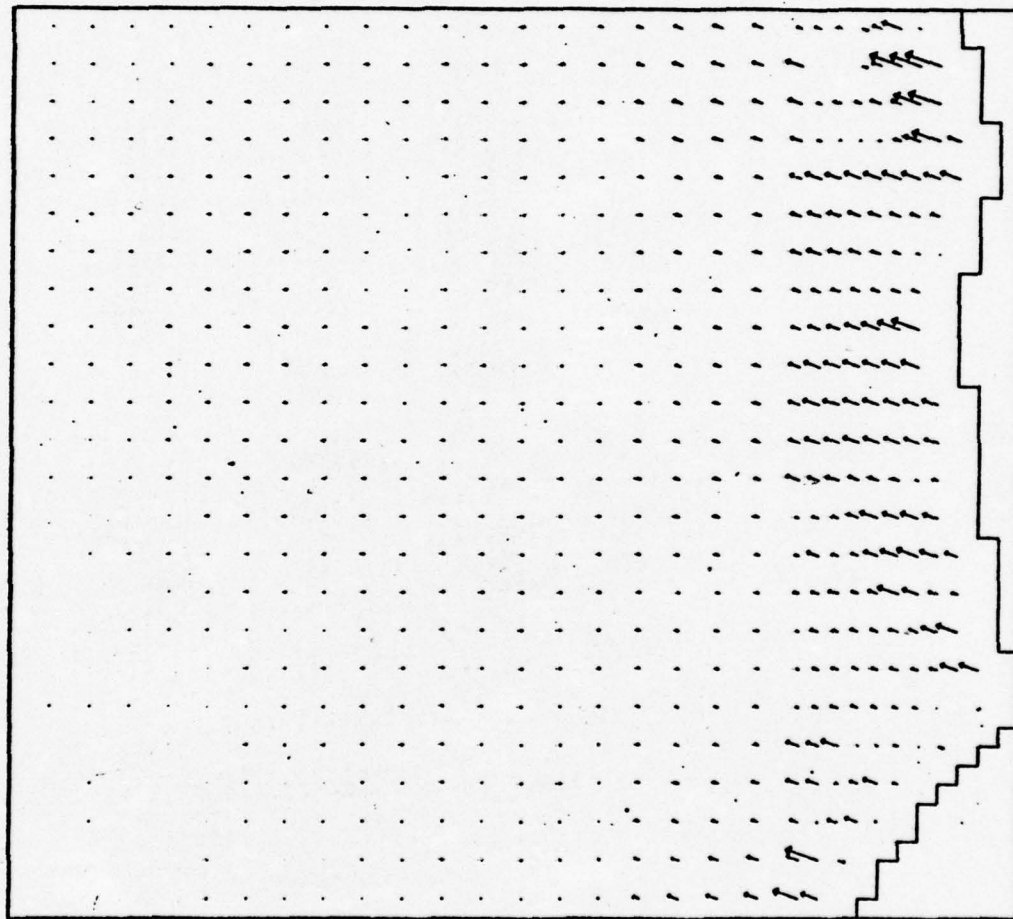
17 MPH·ENE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 40.0 FT

VECTOR LENGTH = 1 FOOT/SEC = 1.0



VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF 10.0 FT 17 MPH.ENE
VECTOR LENGTH = 1 FOOT/SEC = 500.0



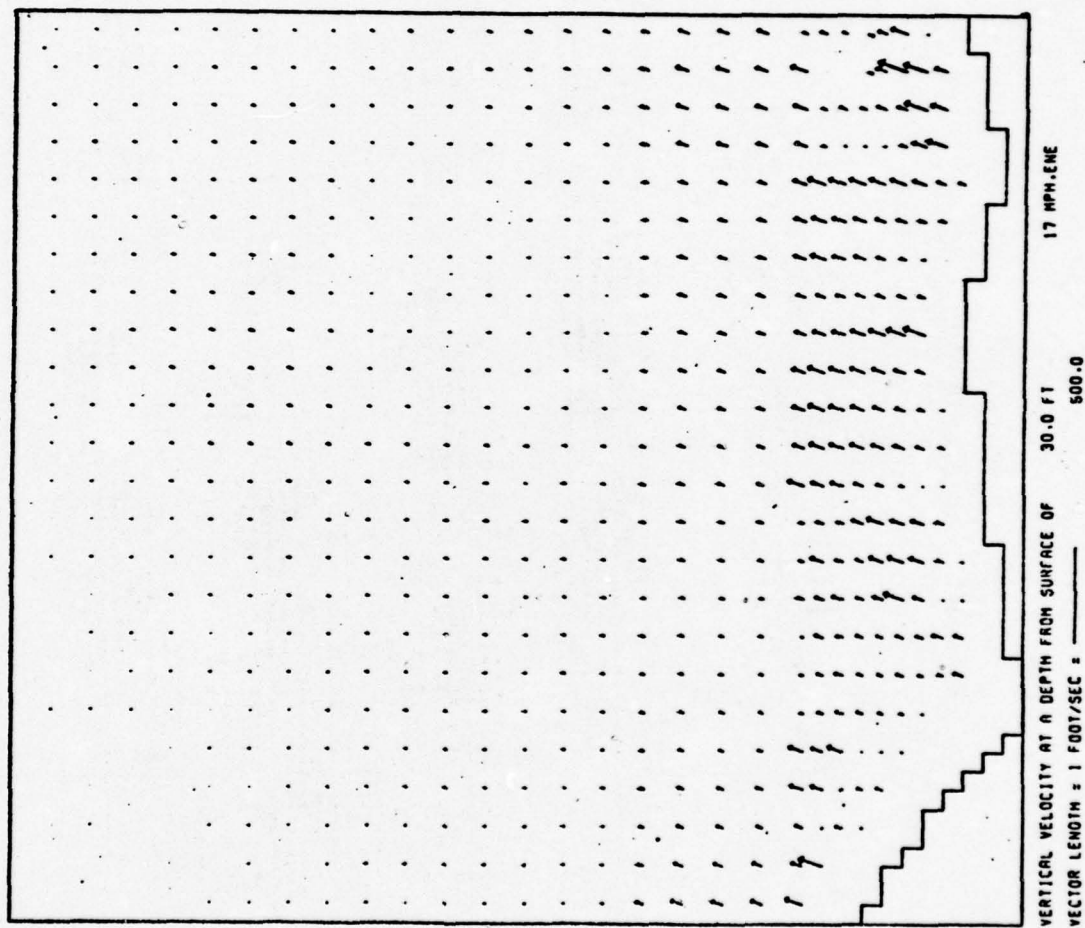
17 MPH.ENE

20.0 FT

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

500.0

VECTOR LENGTH = 1 FOOT/SEC =



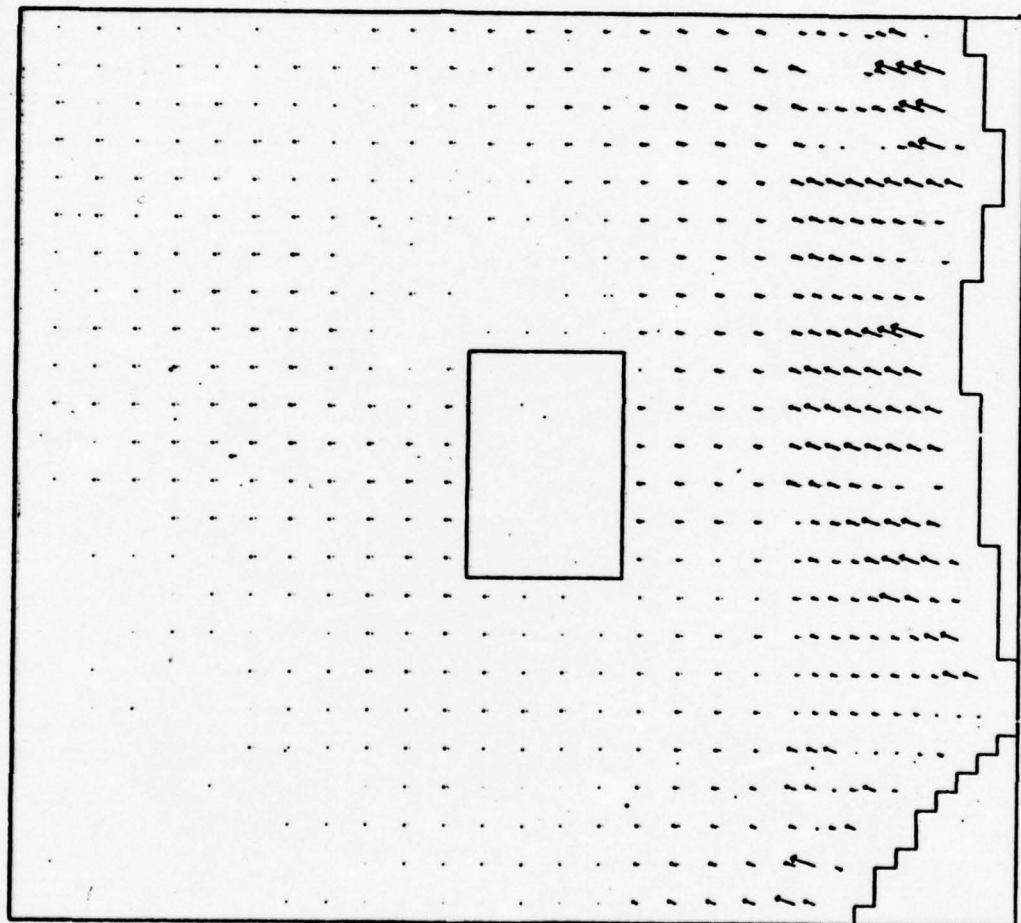


17 MPH-ENE

10.0 FT
500.0

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

VECTOR LENGTH = 1 FOOT/SEC =

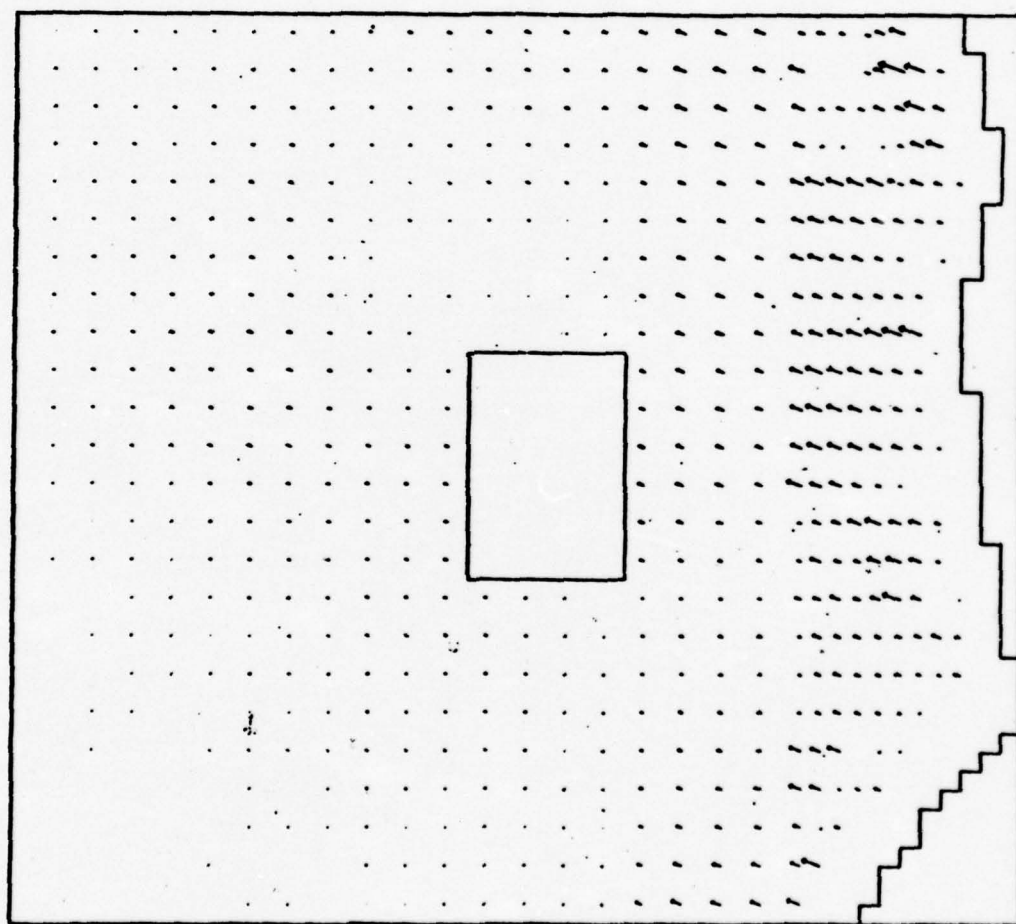


17 MPH,ENE

20.0 FT

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

VECTOR LENGTH = 1 FOOT/SEC =



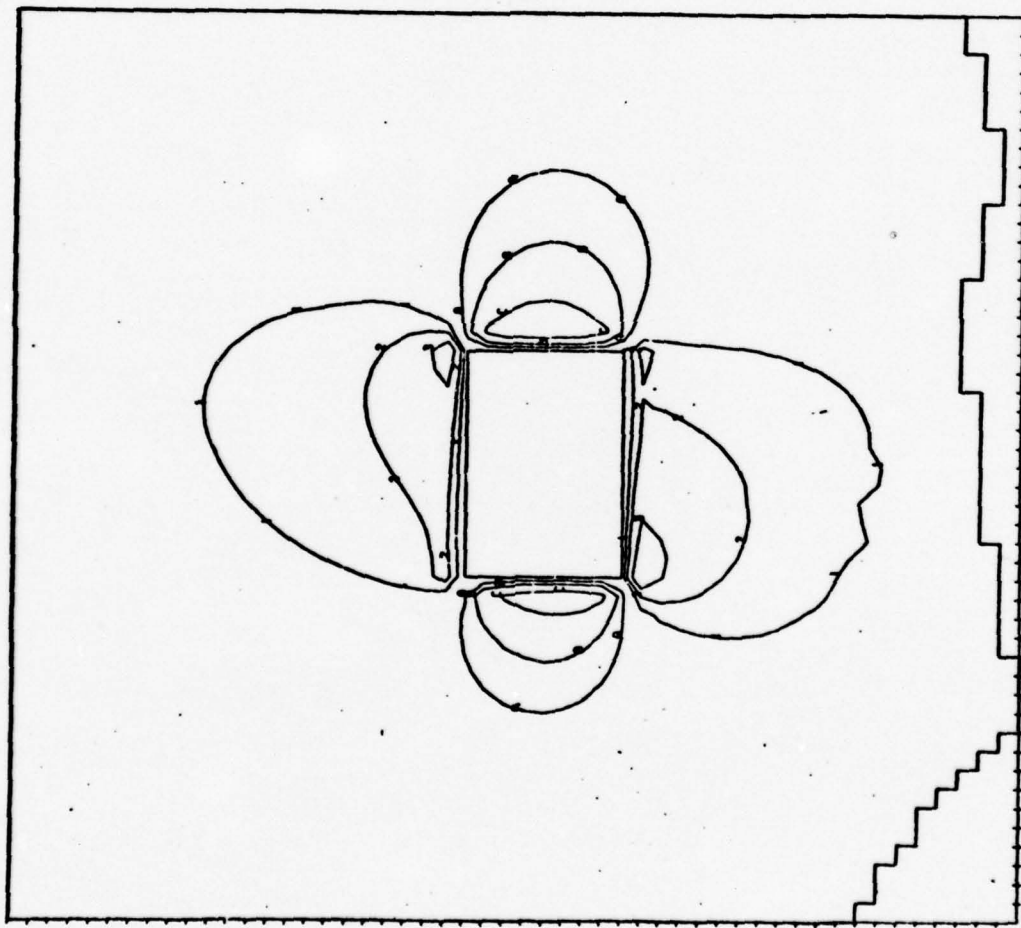
17 MPH/SEC

30.0 FT

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

500.0

VECTOR LENGTH = 1 FOOT/SEC =

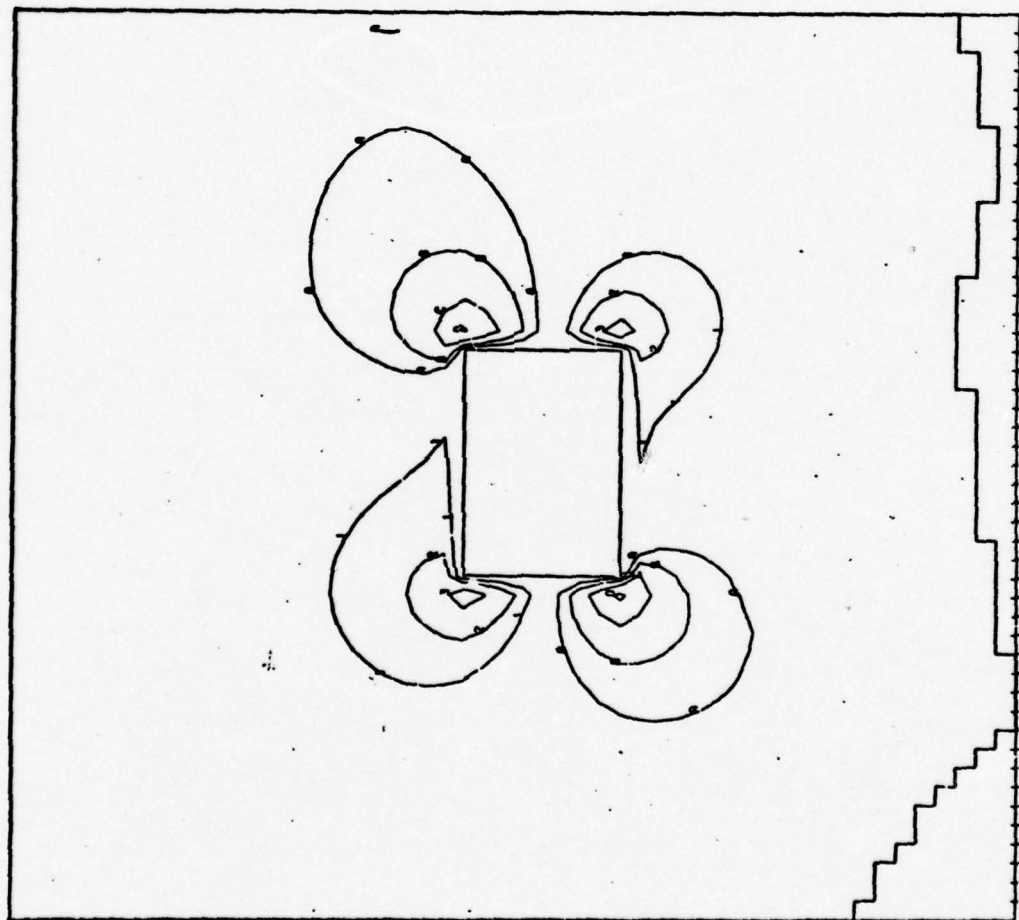


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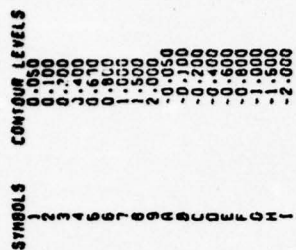
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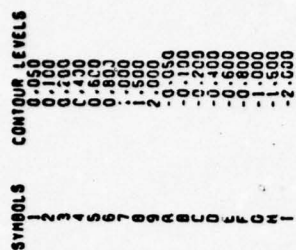
CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

V.D.O.N=17ENE



CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

M.D=0.W=17ENE

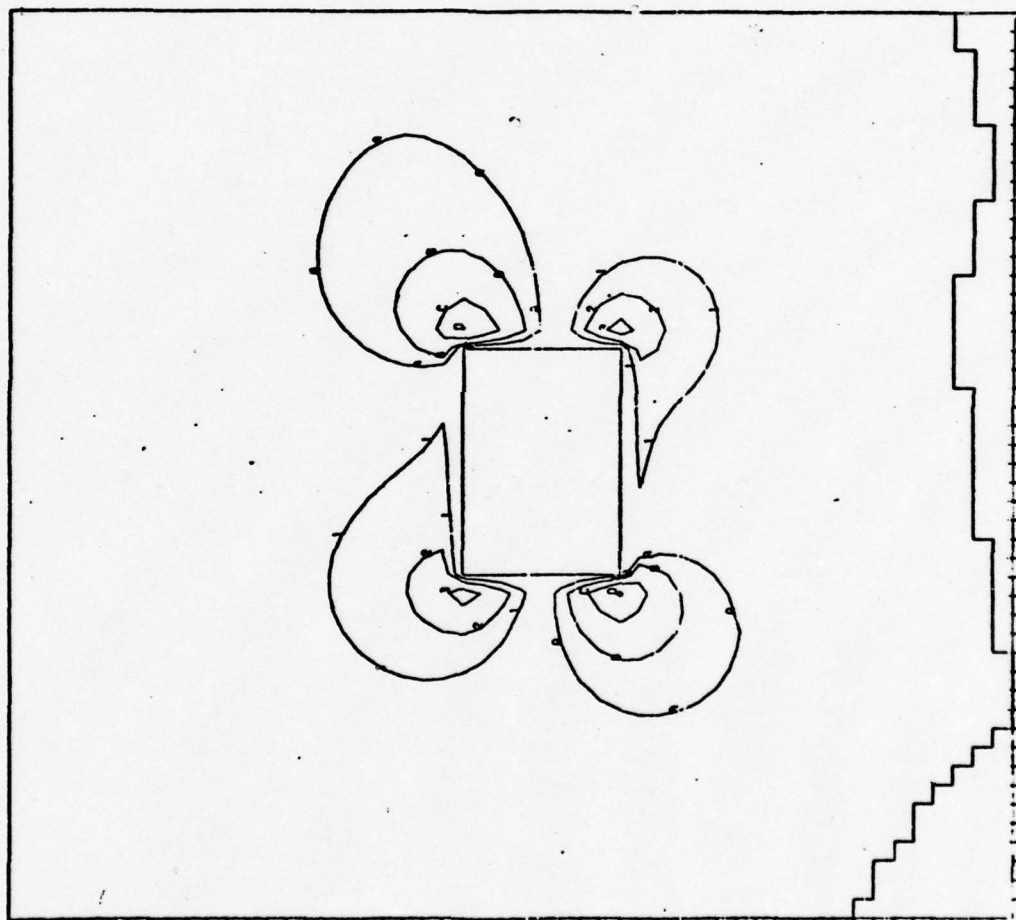


CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

U.O=15.W=17ENE

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CONTOUR LEVELS
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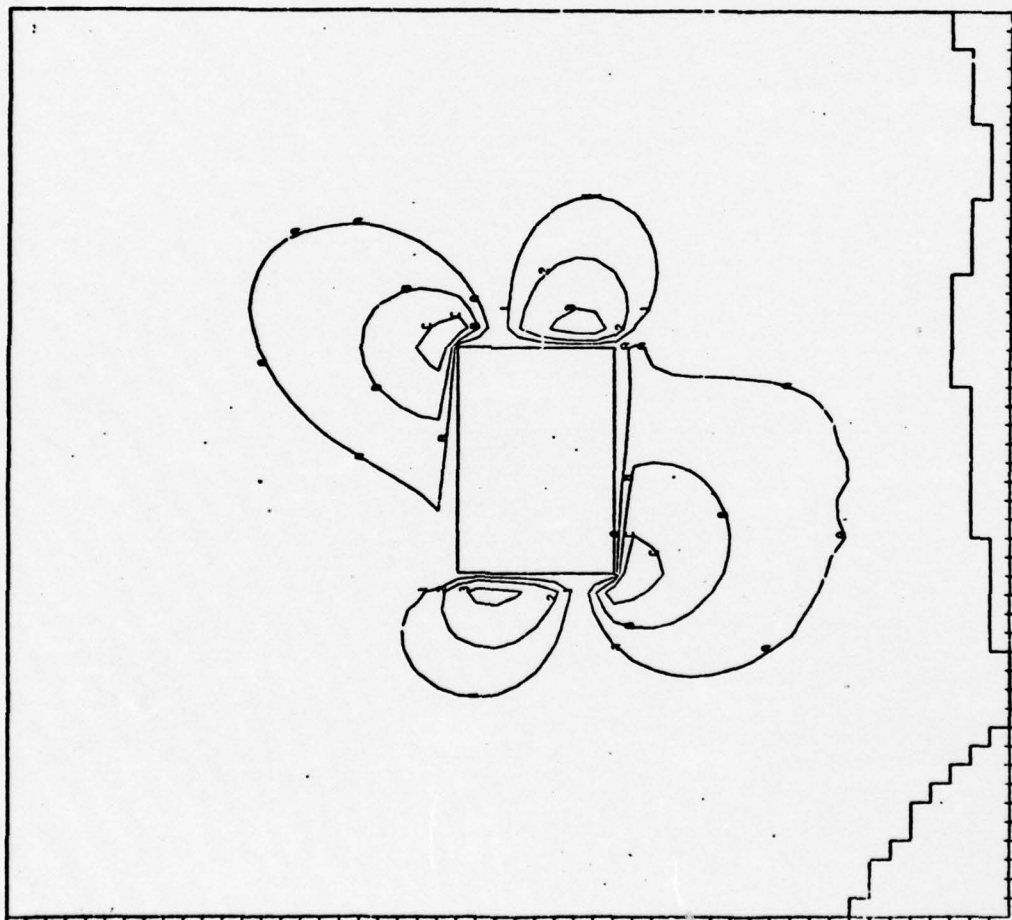


CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

V.D=15.W=17ENE

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5	0.800
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9	-0.050
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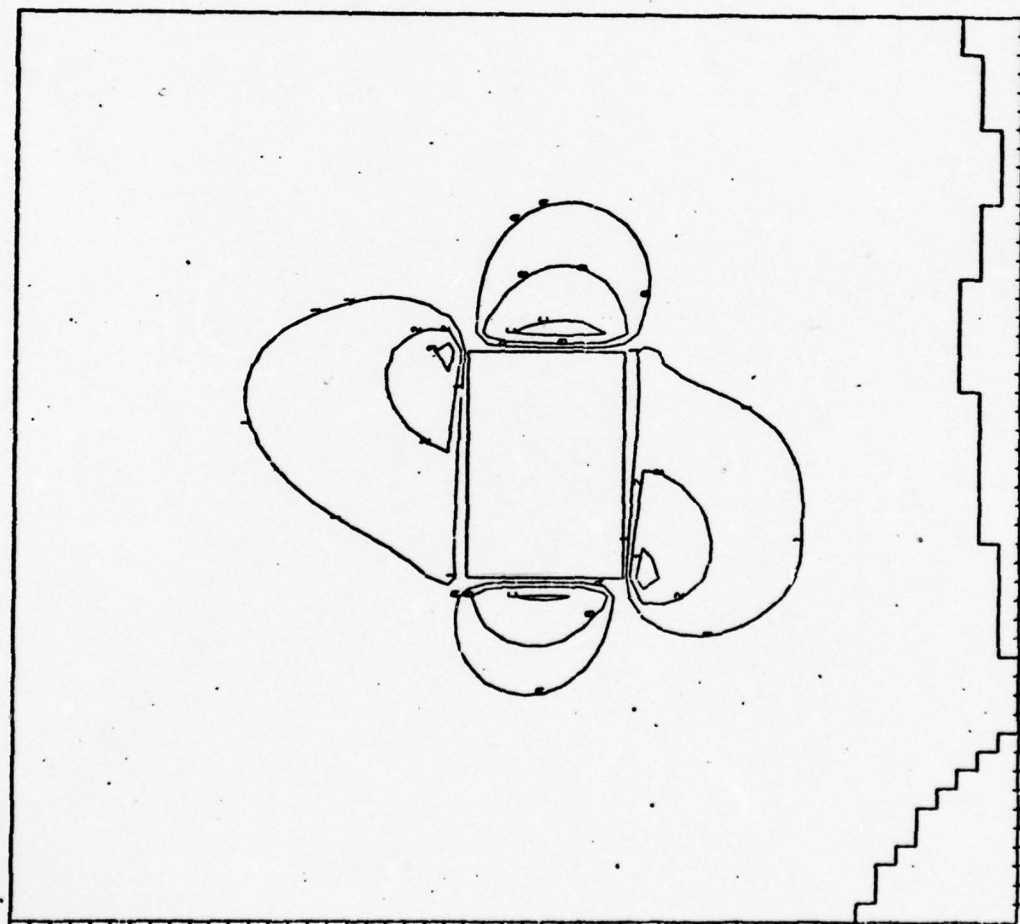


CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

M.D=15.W=17ENE

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CONTOUR LEVELS
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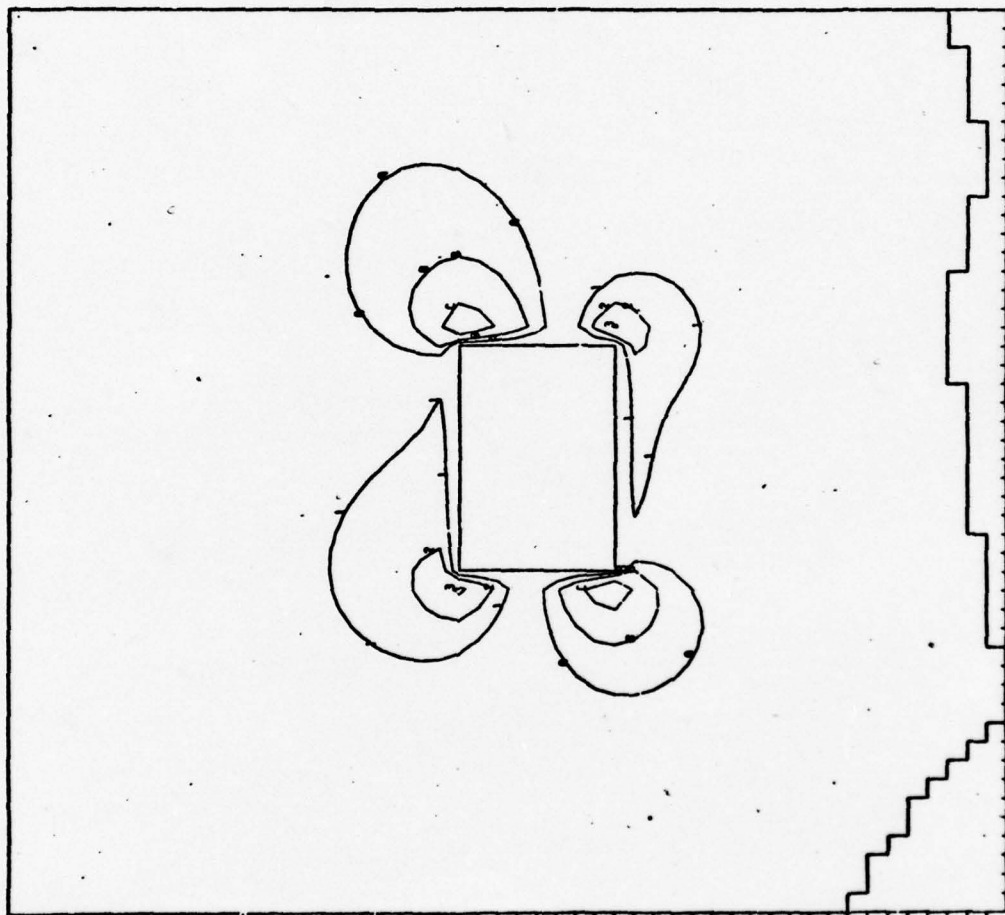


CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

U.D=30.M=17ENE

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CONTOUR LEVELS
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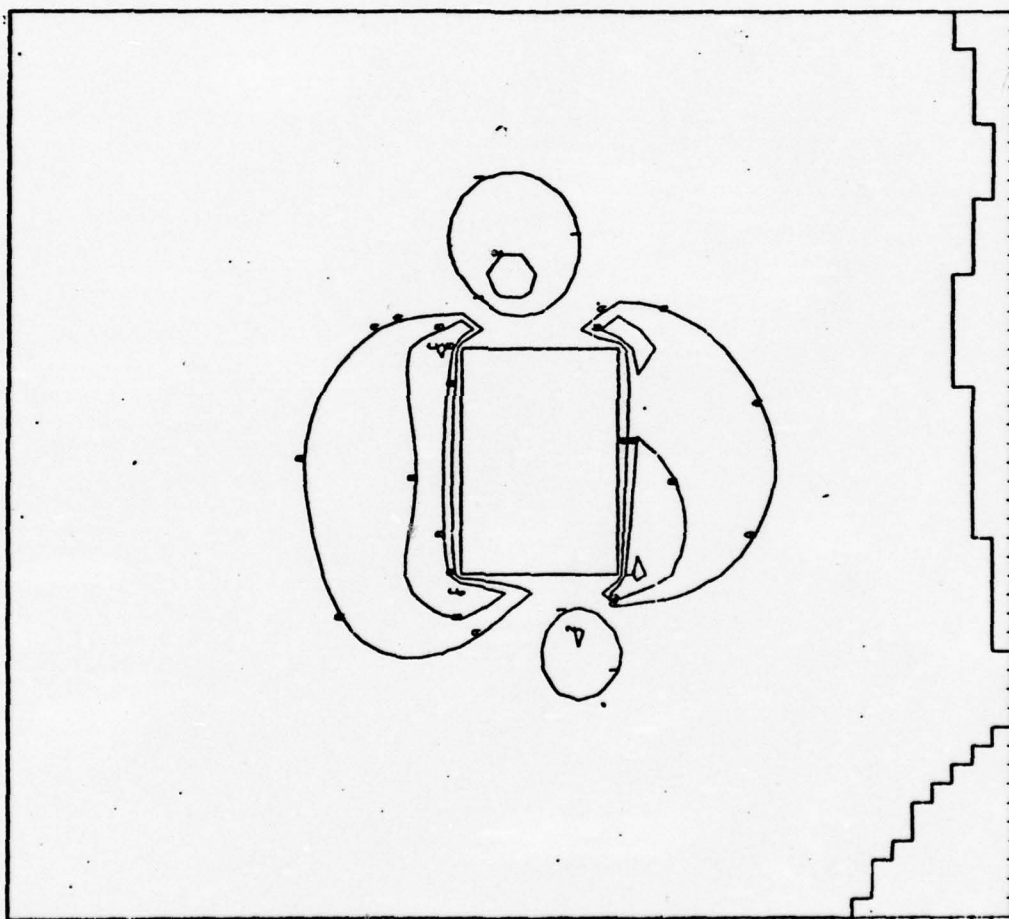


CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

V.D=30, M=17ENE

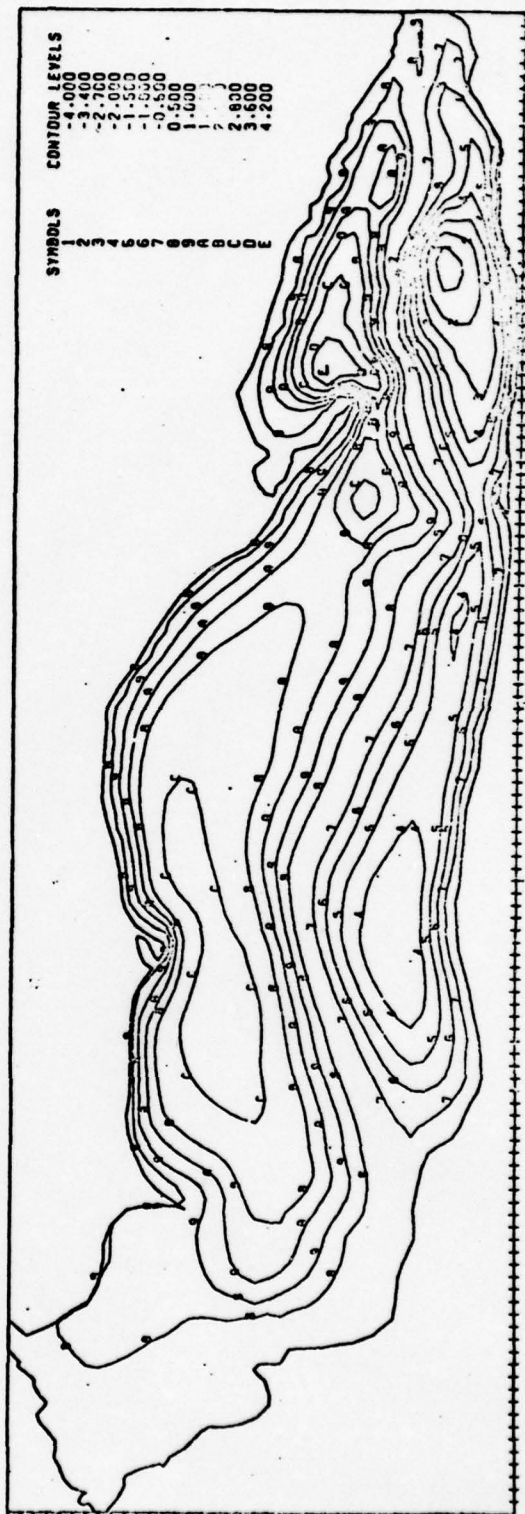
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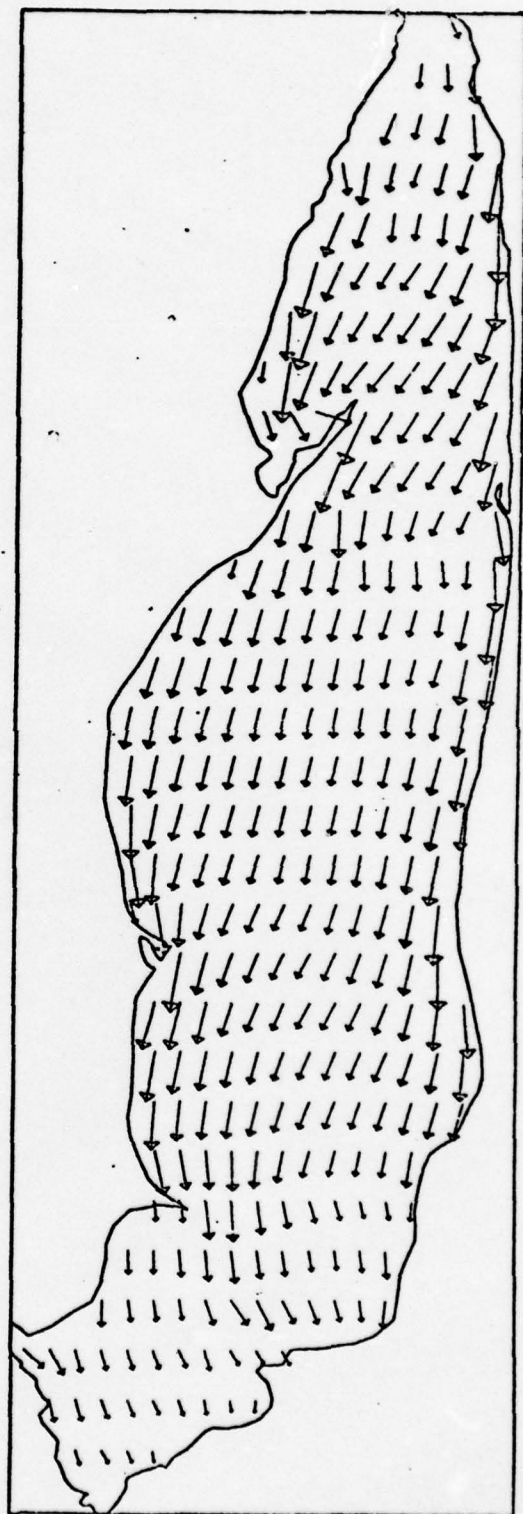
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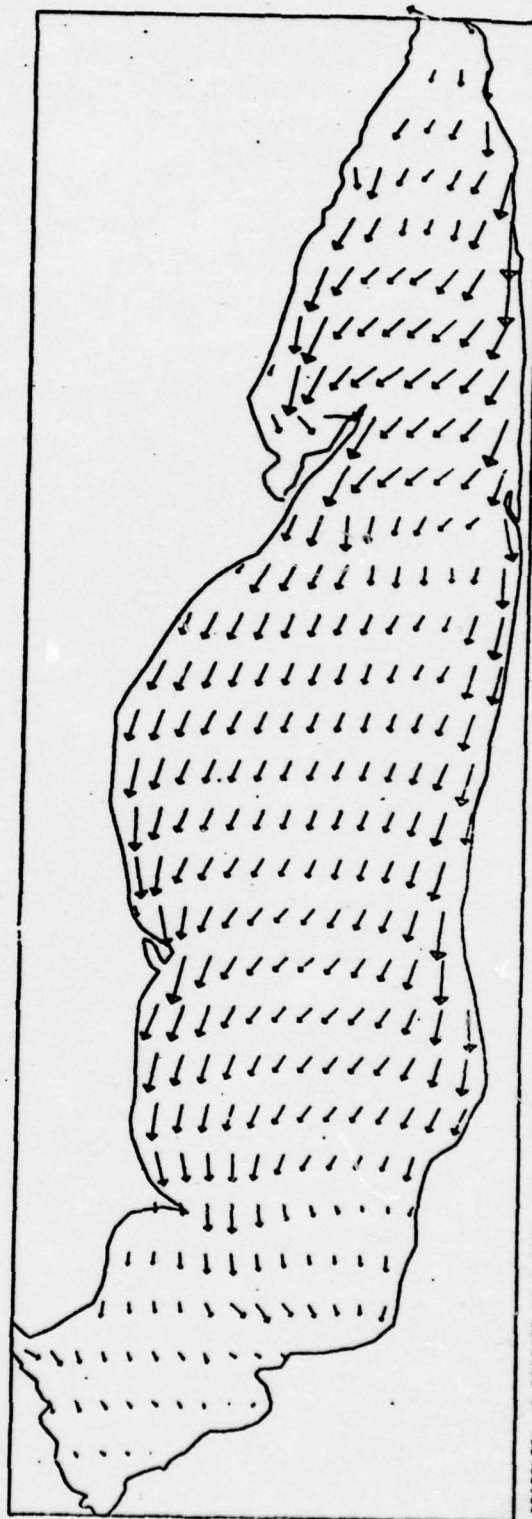
CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

M.D=30 M=17ENE





HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 0.0 FT
VECTOR LENGTH = 1 FOOT/SEC = — 17 MPH/NE

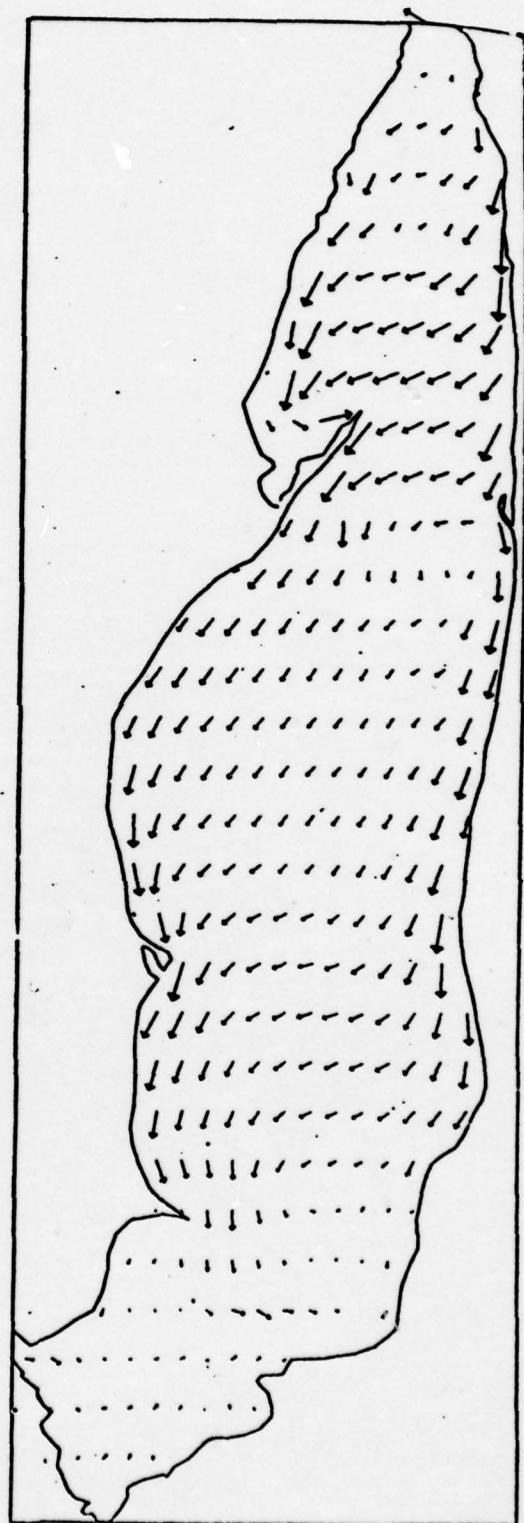


17 MPH.NE

5.0 FT

1.0

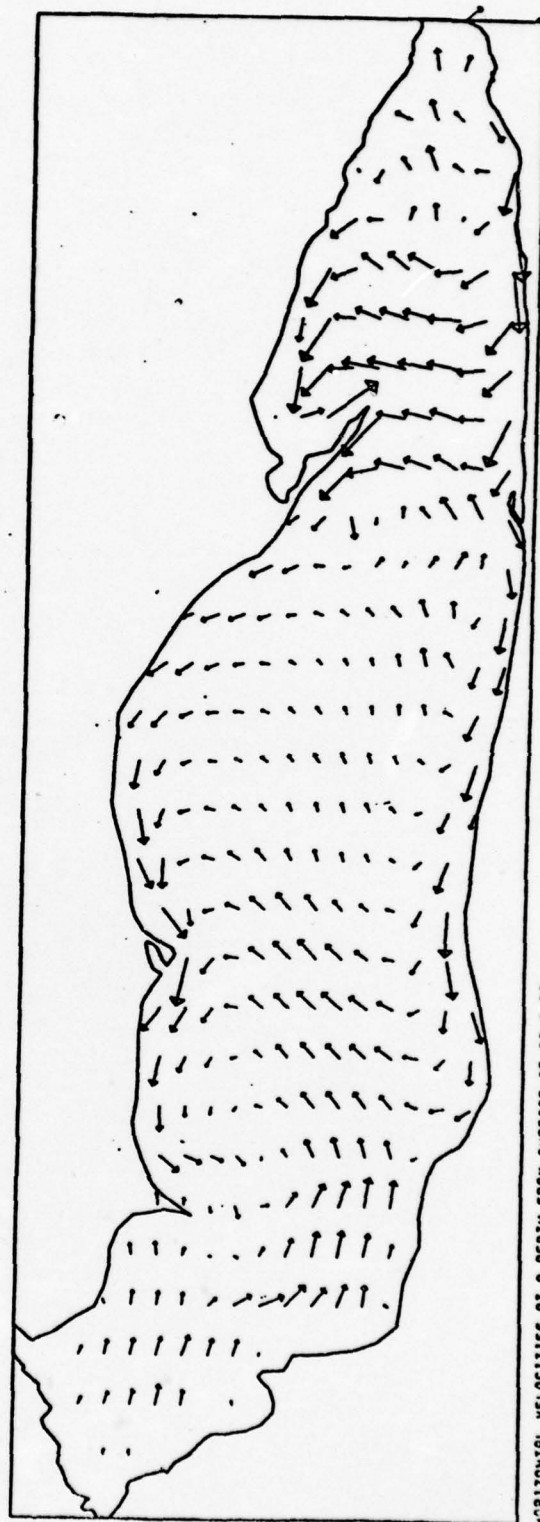
HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 5.0 FT
VECTOR LENGTH = 1 FOOT/SEC = —



17 MPH/HE

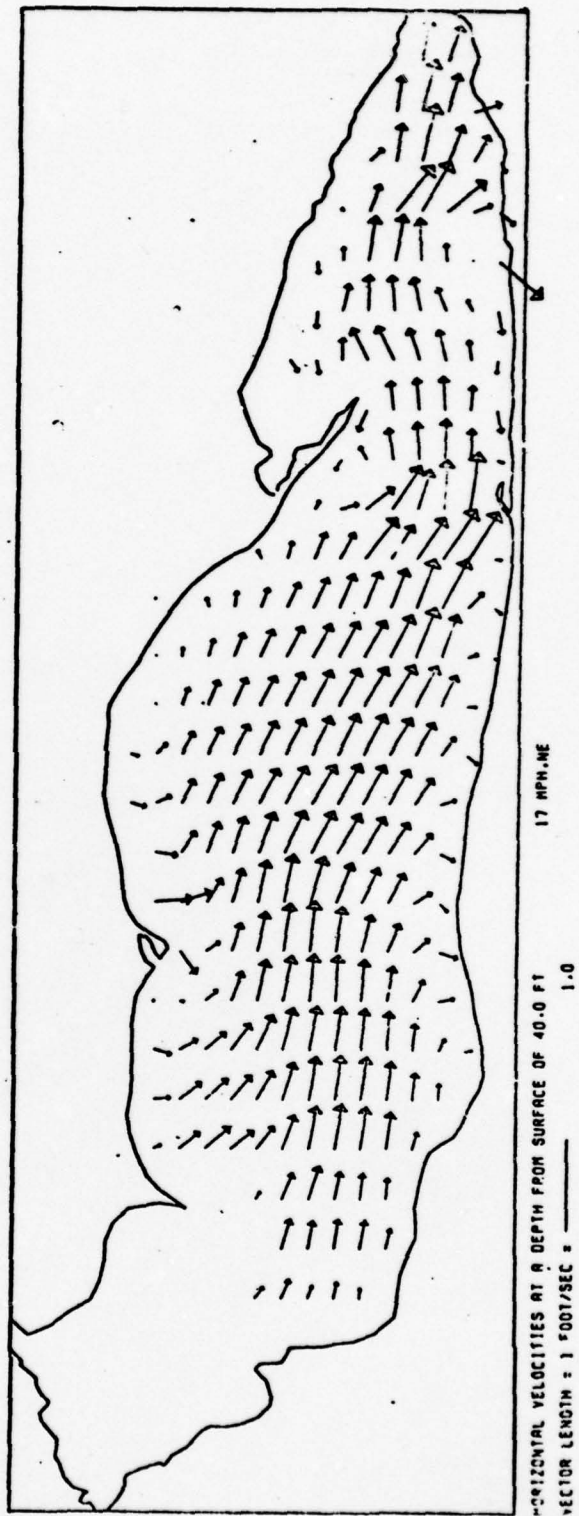
HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 10.0 FT

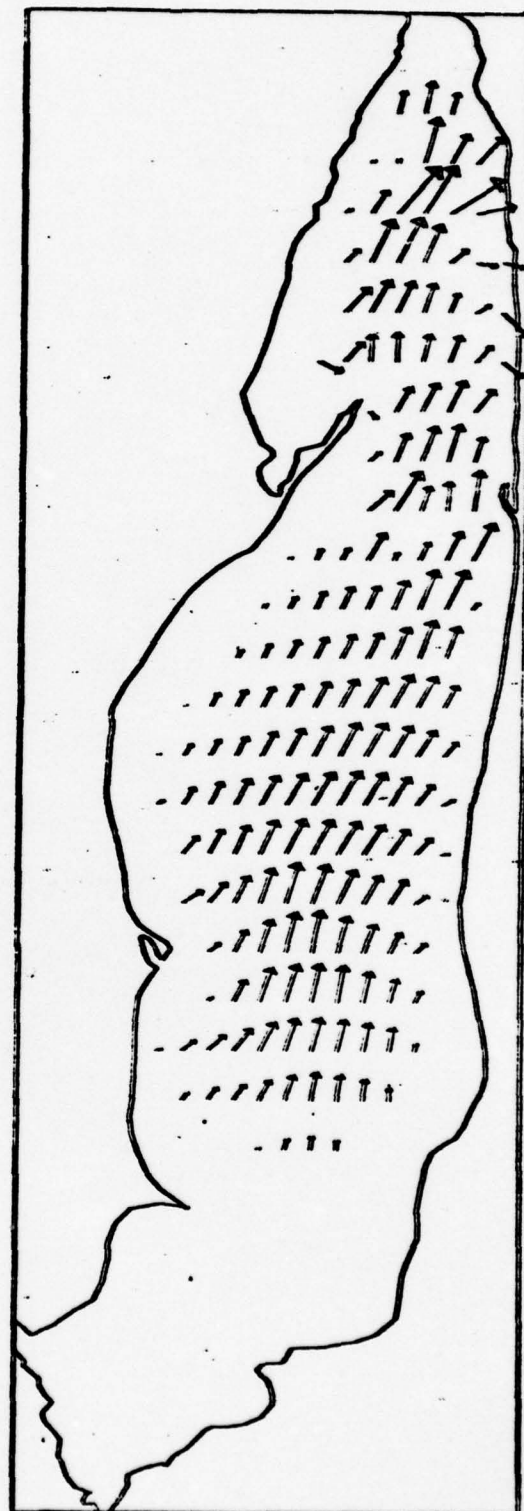
VECTOR LENGTH = 1 FOOT/SEC = 1.0



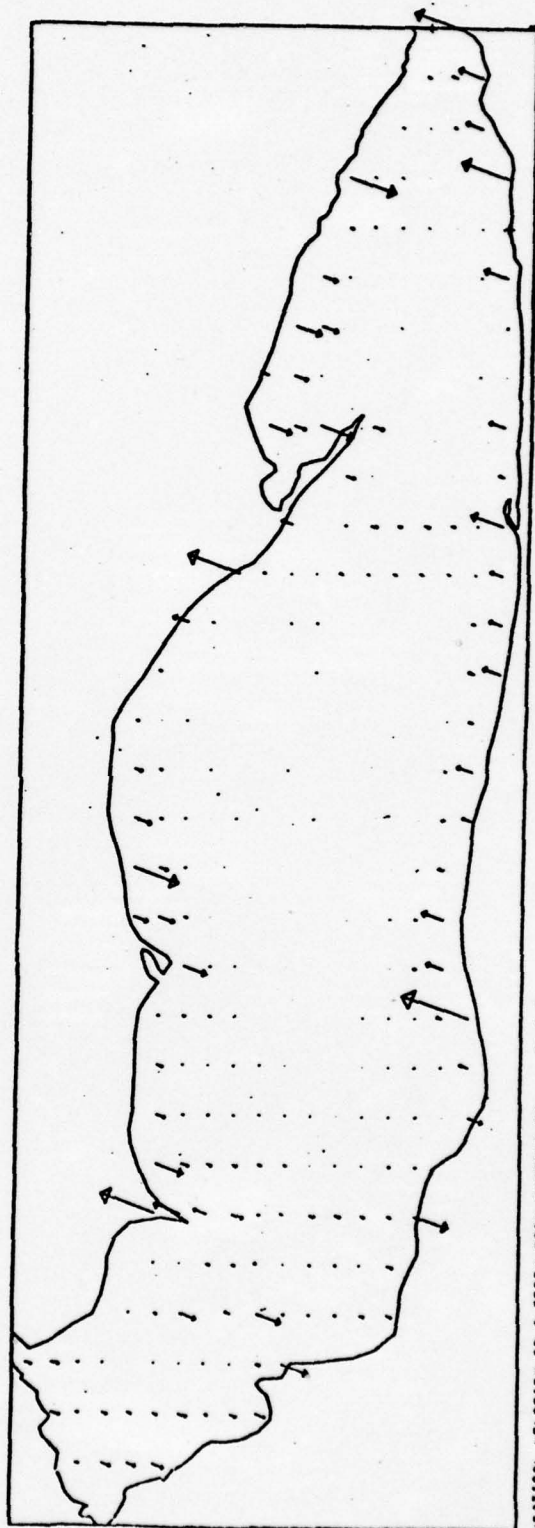
HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 20.0 FT
VECTOR LENGTH = 1 FOOT/SEC = 1.0

17 MPH.NE





HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 80.0 FT
VECTON LENGTH = 1 FOOT/SEC = 1.0
17 MPH/NE



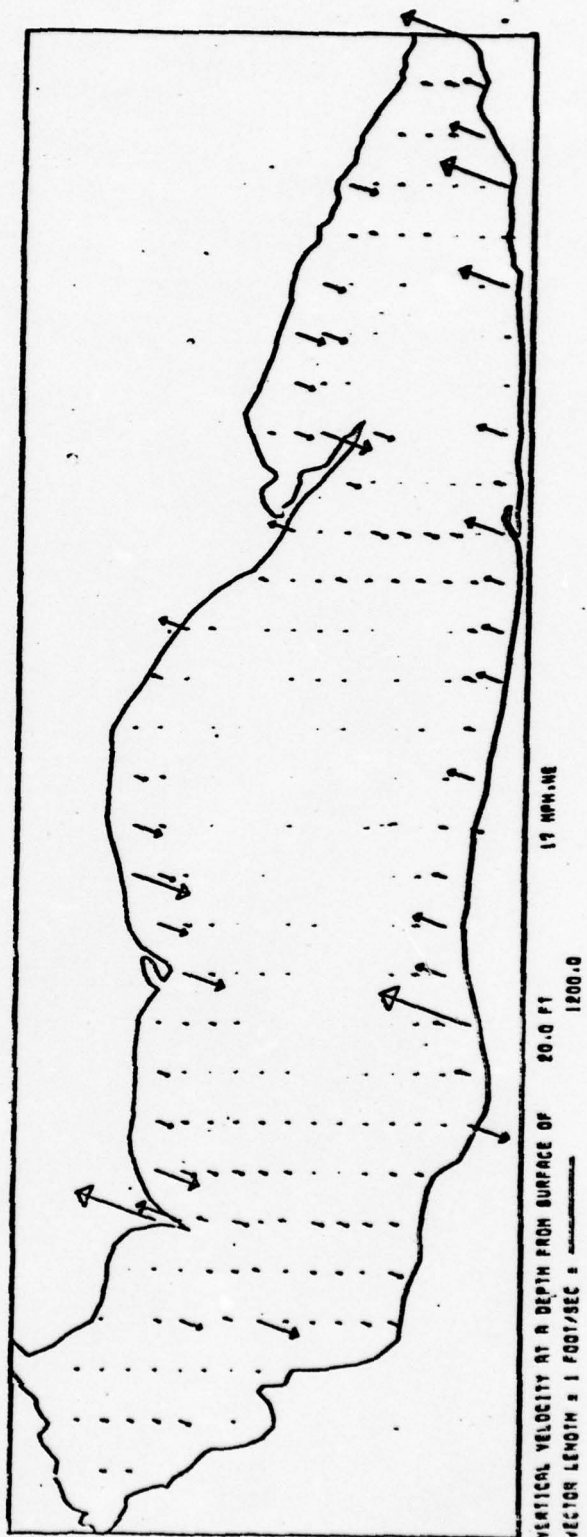
17 MPH, NE

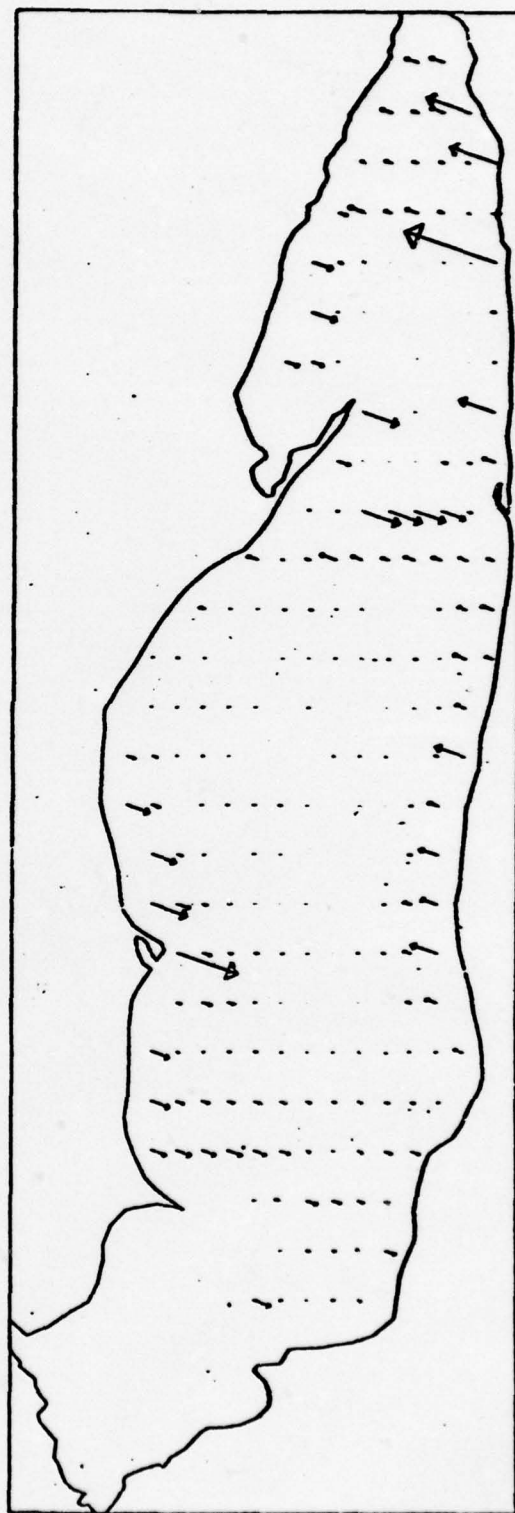
10.0 FT

1200.0

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

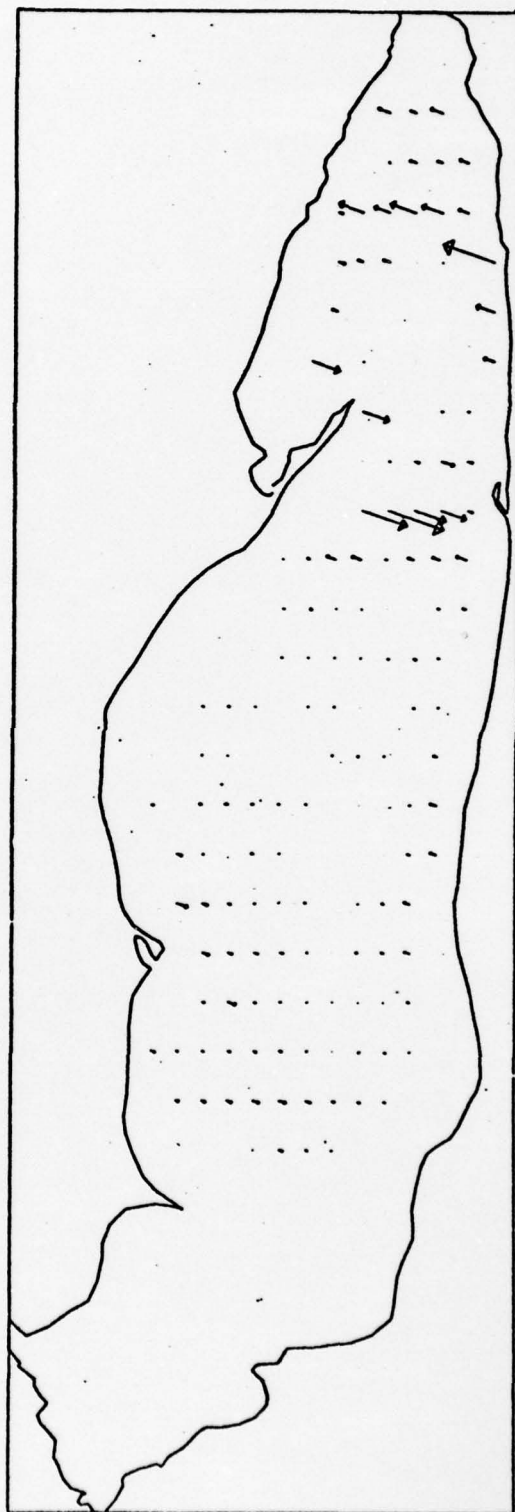
VECTOR LENGTH = 1 FOOT/SEC =





VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF 40.0 FT
VECTOR LENGTH = 1 FOOT/SEC = 1.200.0

11



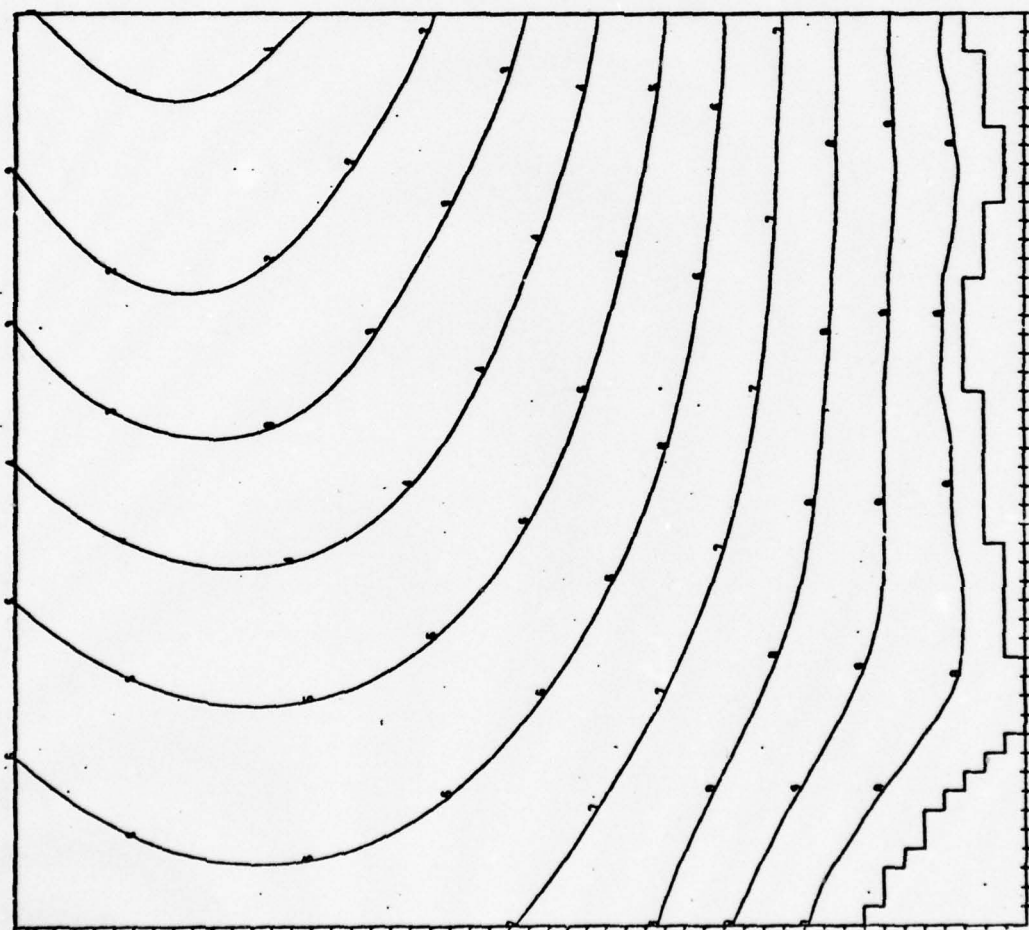
17 MPH.NE

60.0 FT

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

1200.0

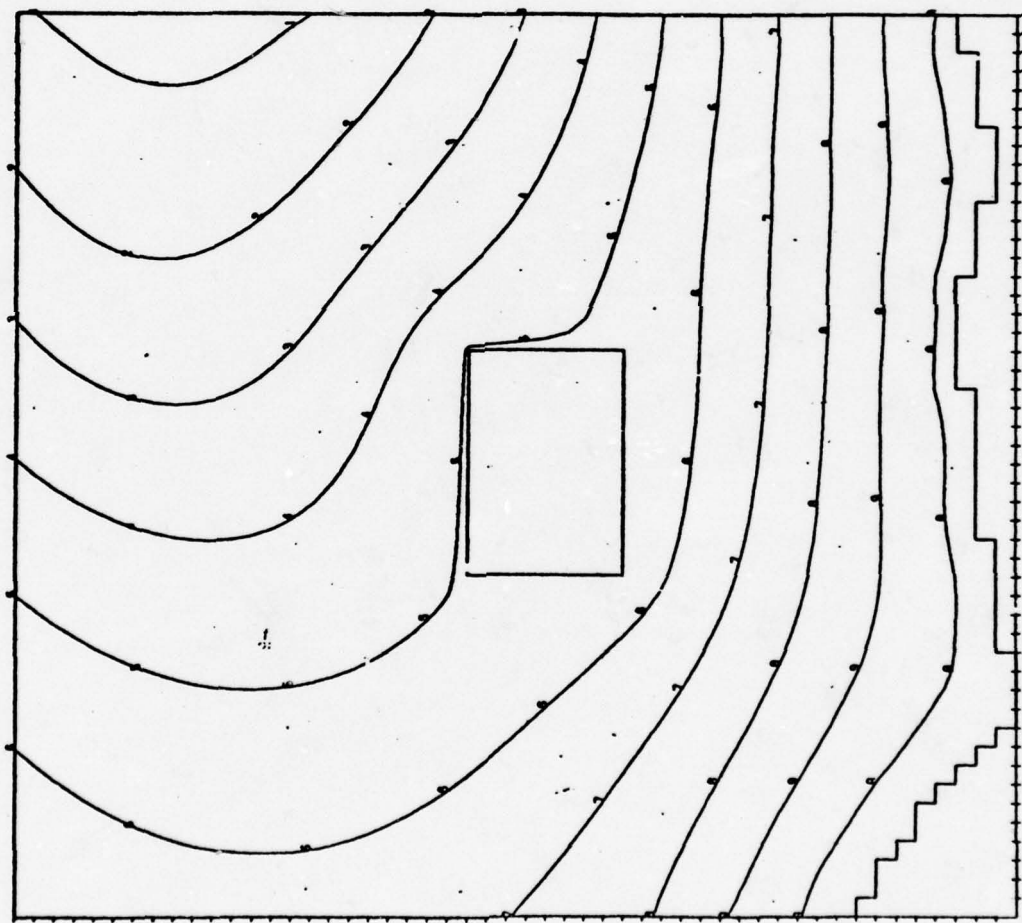
VECTOR LENGTH = 1 FOOT/SEC =



CONTOURS OF STREAM FUNCTION FOR LAKE ERIE -- NEARSHORE

WA=17MPH.NE

SYMBOLS
 CONTOUR LEVELS
 -1.900
 -1.700
 -1.500
 -1.300
 -1.100
 -0.900
 -0.700
 -0.500
 -0.300
 -0.100

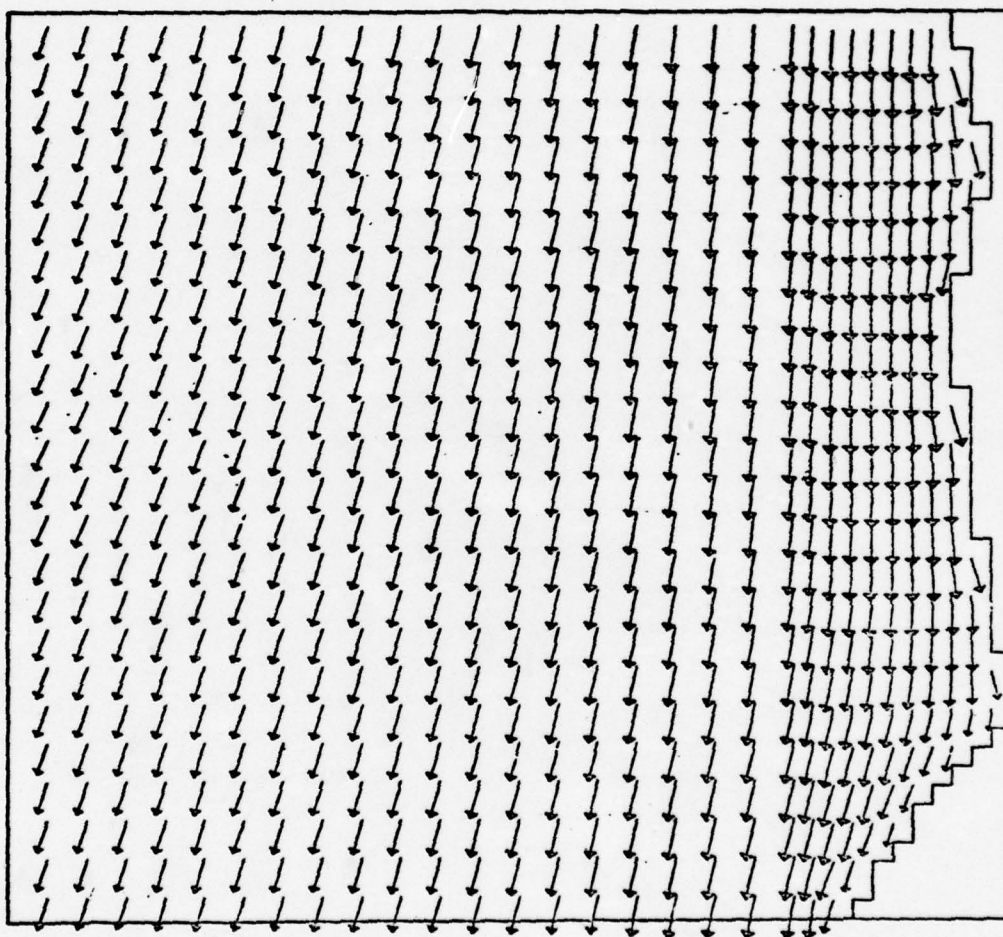


SYMBOLS

SYMBOLS	CONTOUR LEVELS
1	-1.900
2	-1.700
3	-1.500
4	-1.300
5	-1.100
6	-0.900
7	-0.700
8	-0.500
9	-0.300
10	-0.100

CONTOURS OF STREAM FUNCTION FOR LAKE ERIE -- NEARSHORE

WA-17MPH.NE

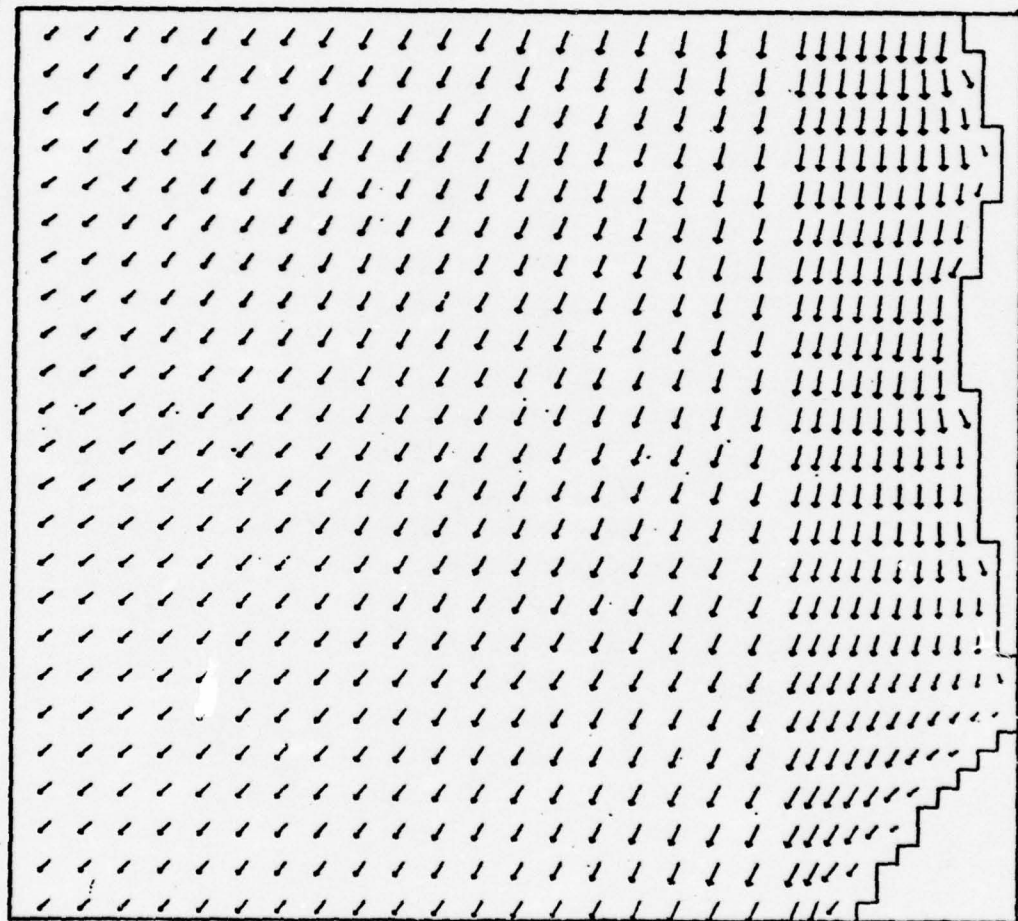


17 MPH.NE

1.0

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 0.0 FT

VECTOR LENGTH = 1 FOOT/SEC = —

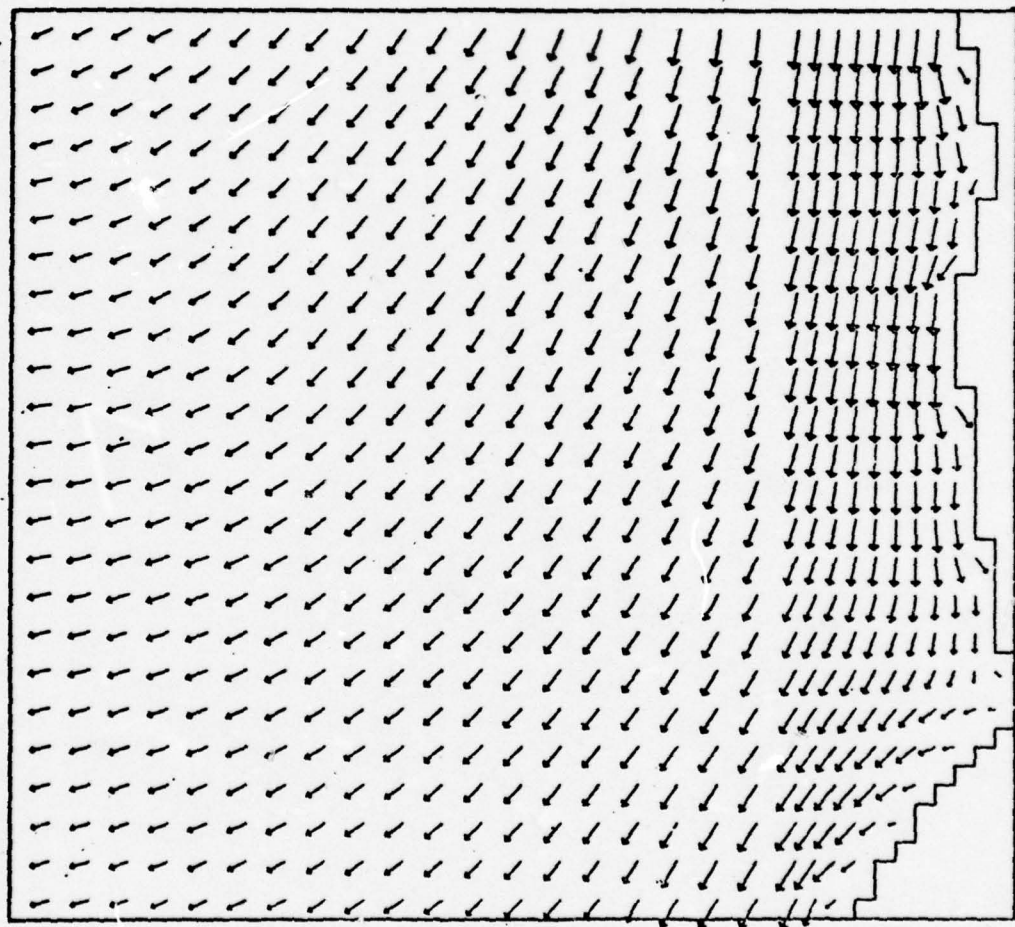


17 MPH.NE

1.0

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 10.0 FT

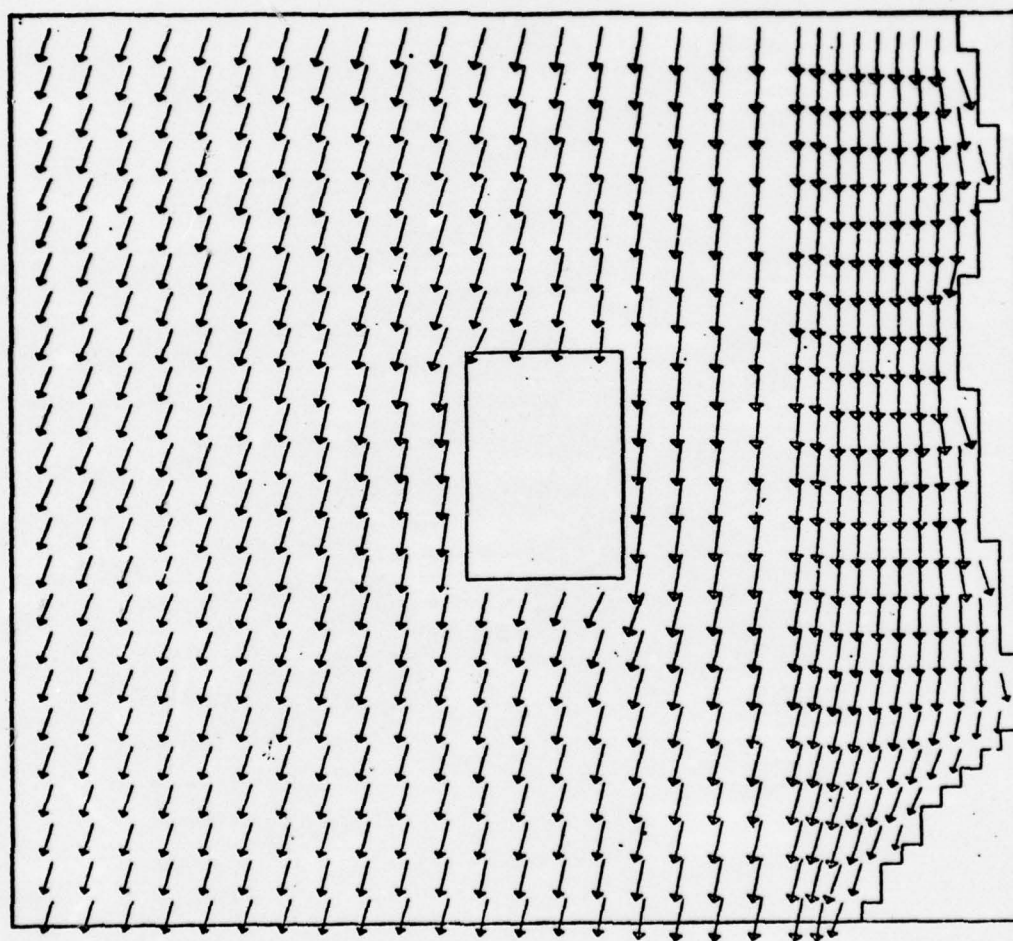
VECTOR LENGTH = 1 FOOT/SEC = ———



17 MPH.NE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 15.0 FT

VECTOR LENGTH = 1 FOOT/SEC = 1.0

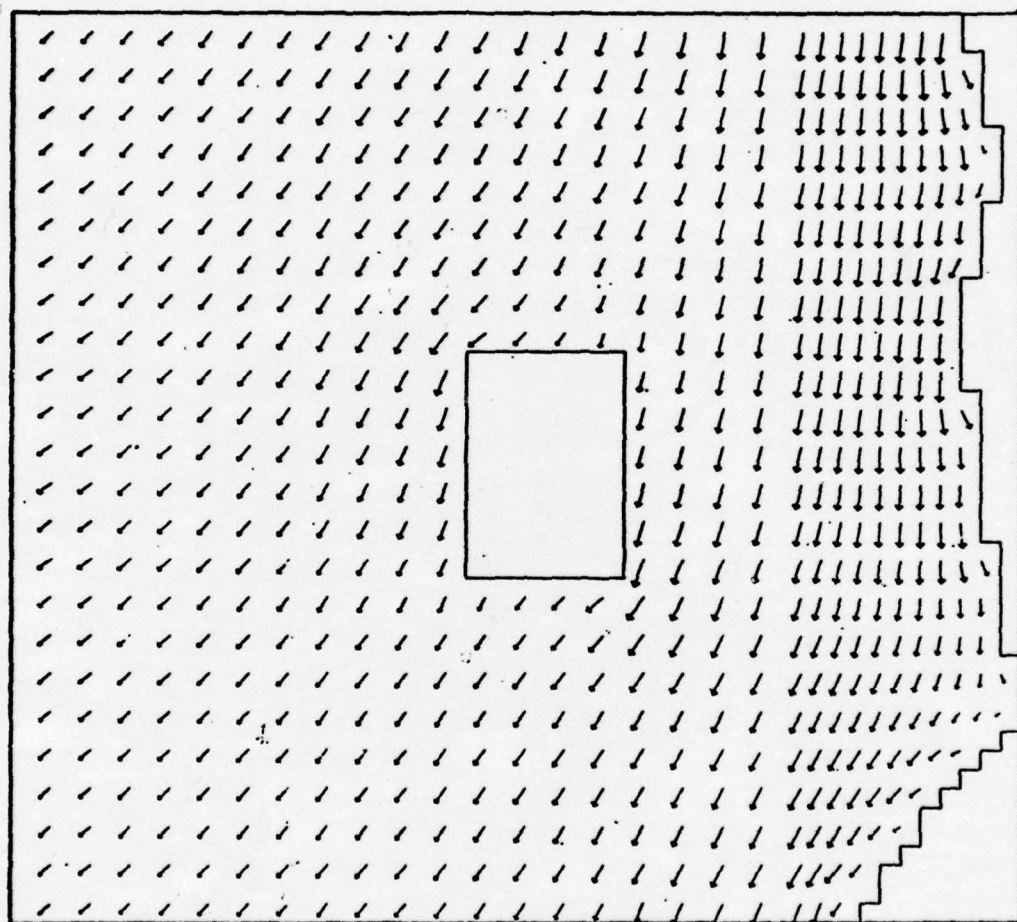


17 MPH.NE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 0.0 FT

1.0

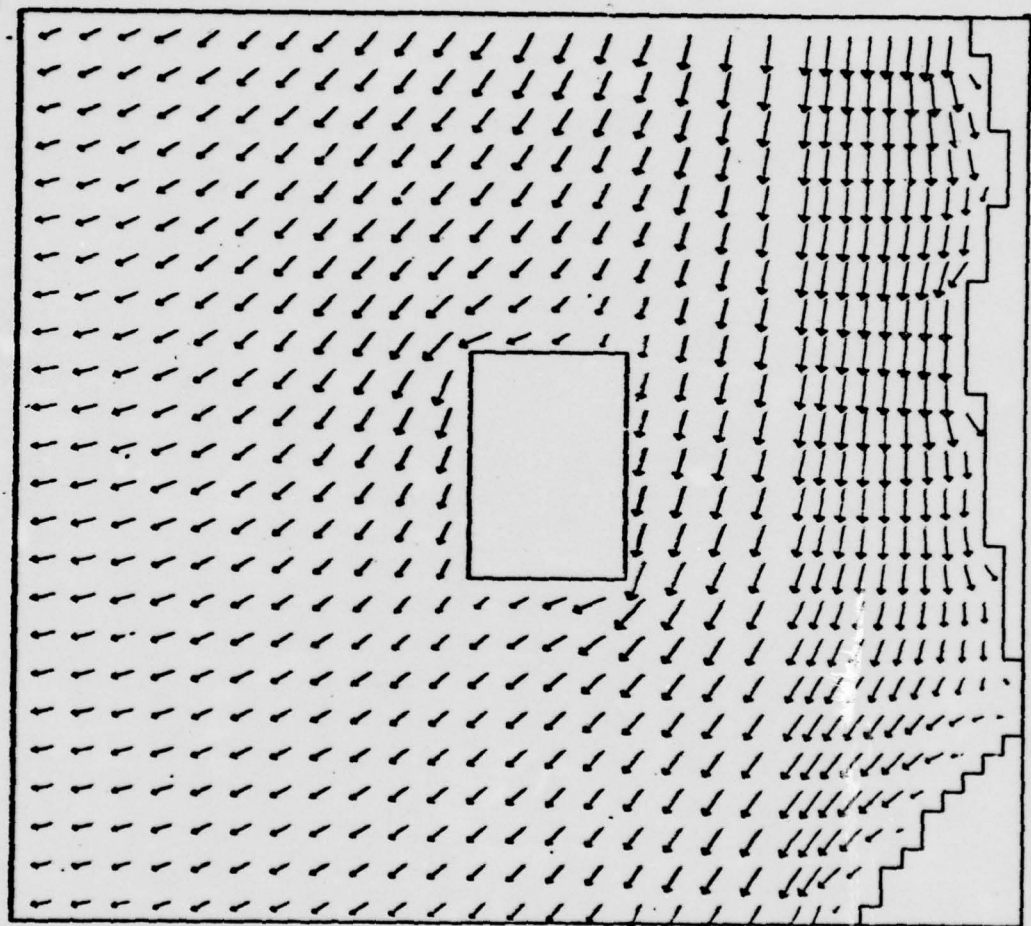
VECTOR LENGTH = 1 FOOT/SEC = —



17 MPH, NE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 10.0 FT
VECTOR LENGTH = 1 FOOT/SEC = —

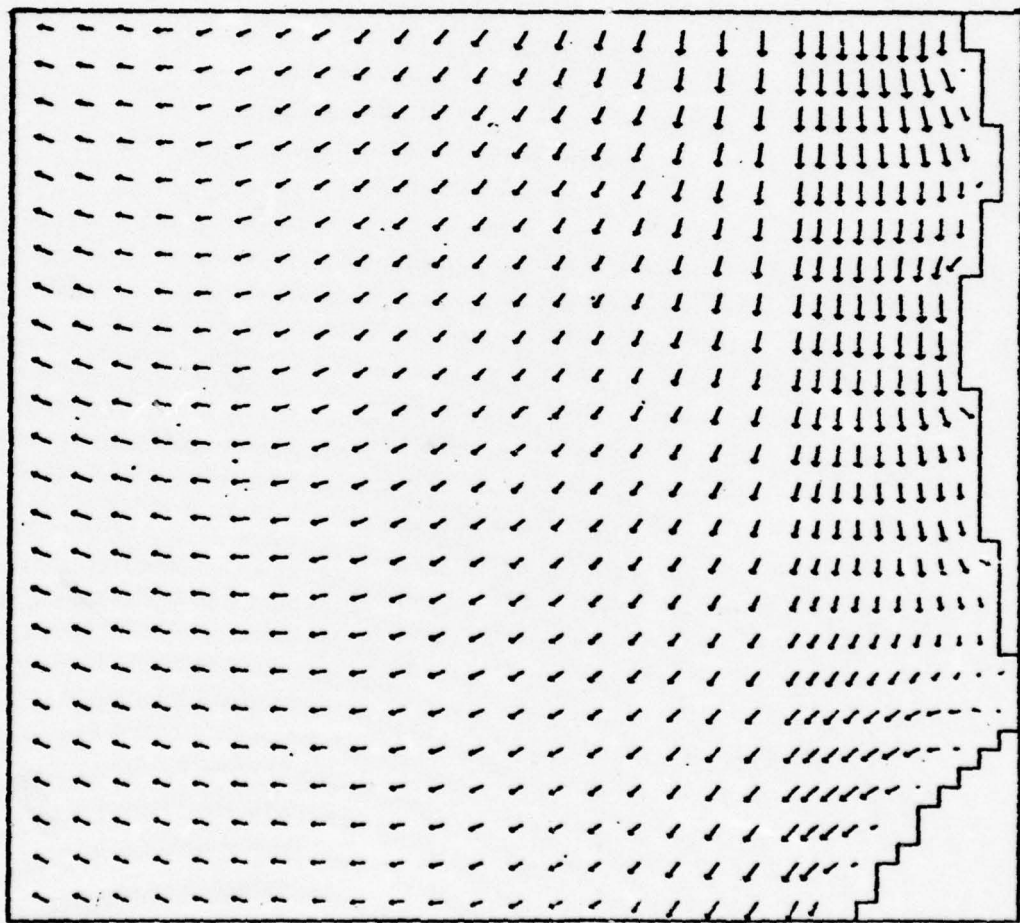
1.0



17 MPH.NE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 15.0 FT

VECTOR LENGTH = 1 FOOT/SEC = 1.0

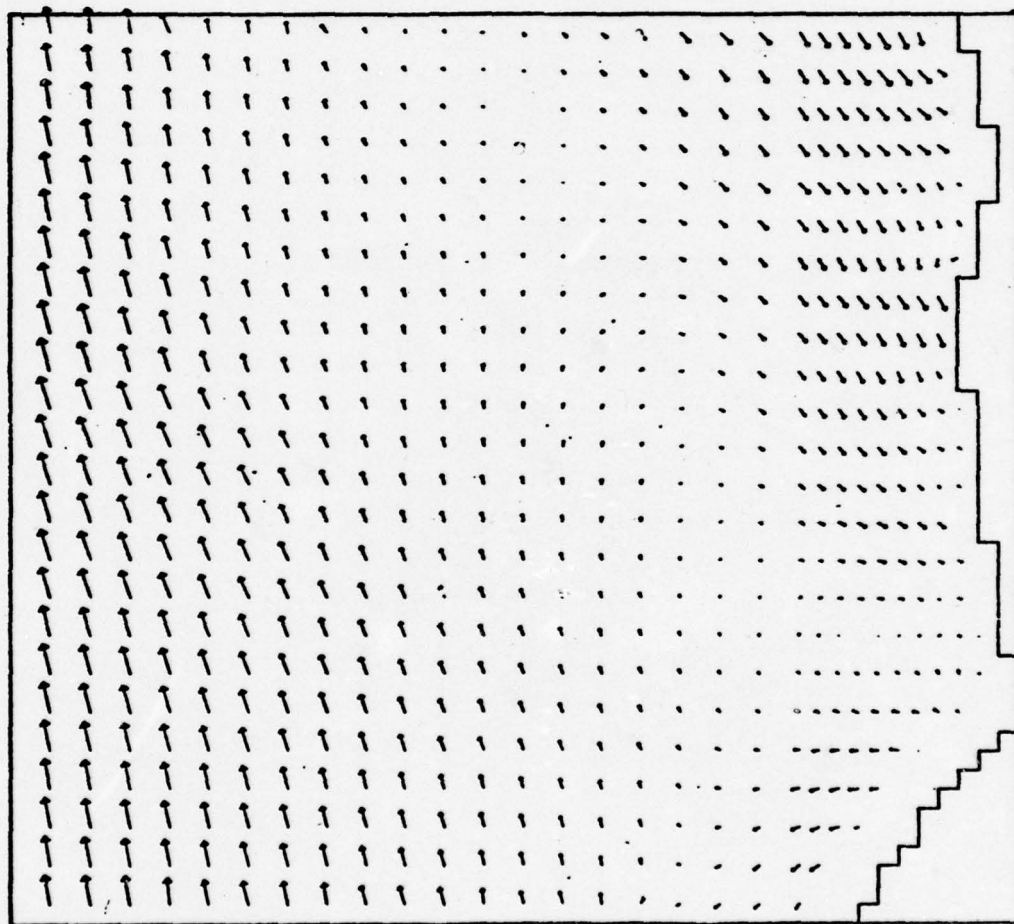


17 MPH.NE

1.0

HORIZONTAL VEL. LINES AT A DEPTH FROM SURFACE OF 20.0 FT

VECTOR LENGTH = 1 FOOT/SEC =

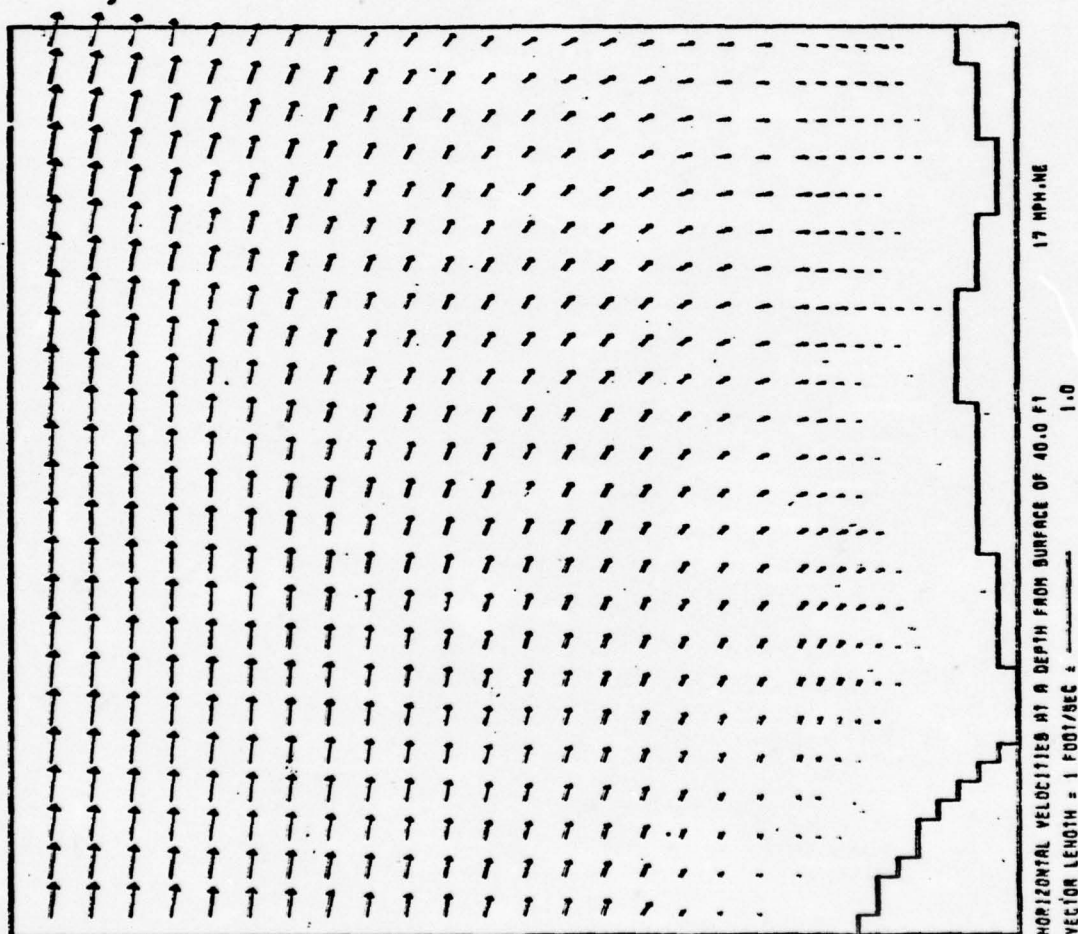


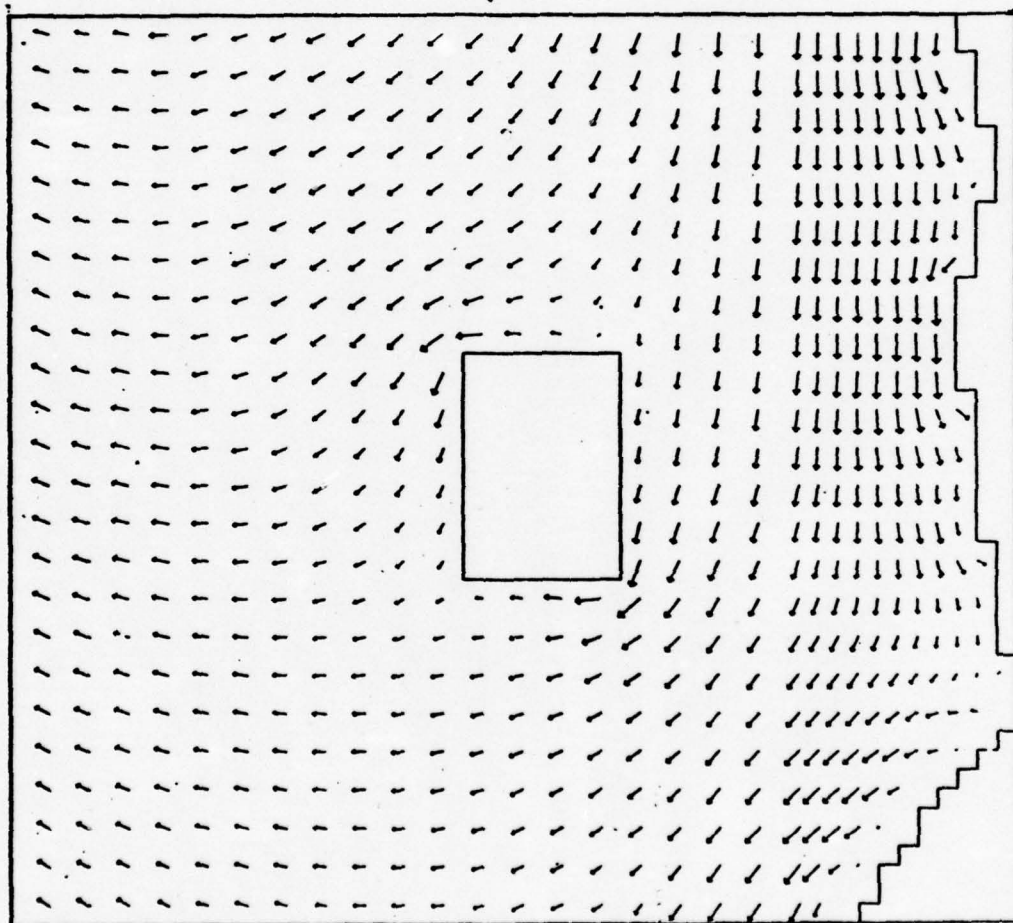
17 MPH, NE

1.0

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 30.0 FT

VECTOR LENGTH = 1 FOOT/SEC =



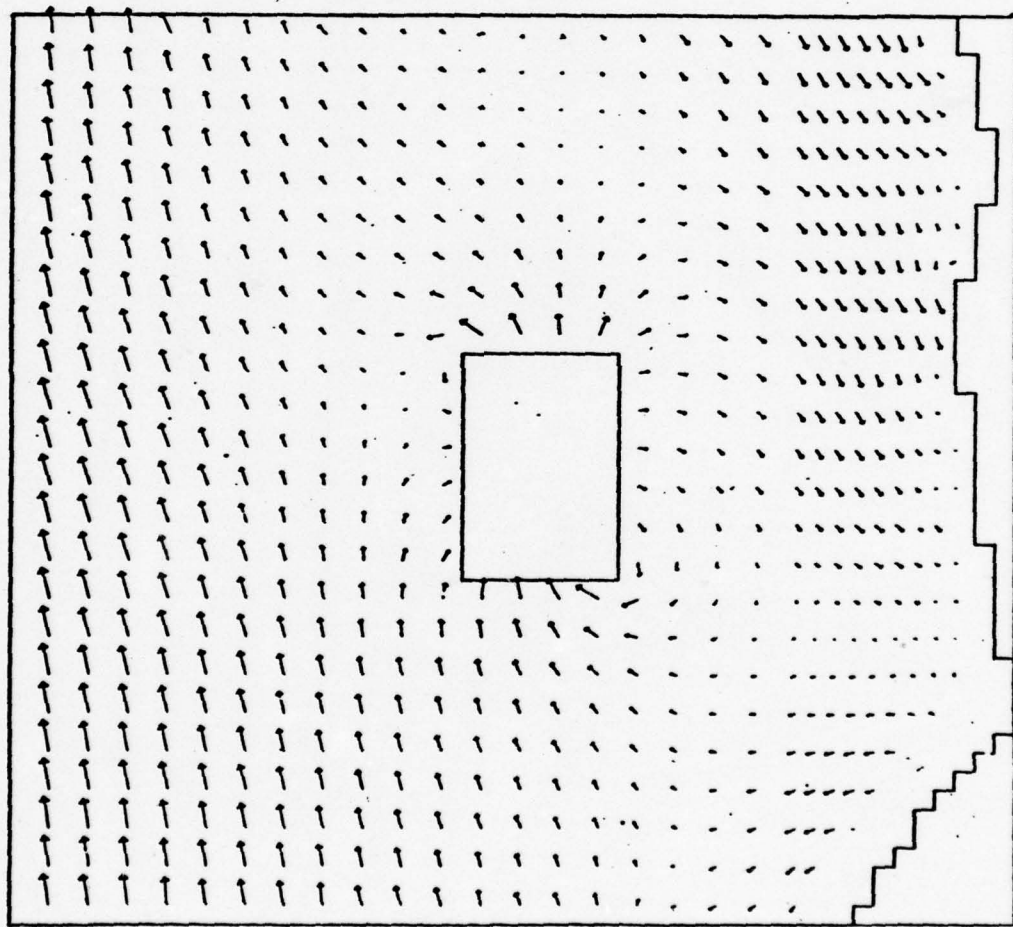


17 MPH.NE

1.0

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 20.0 FT

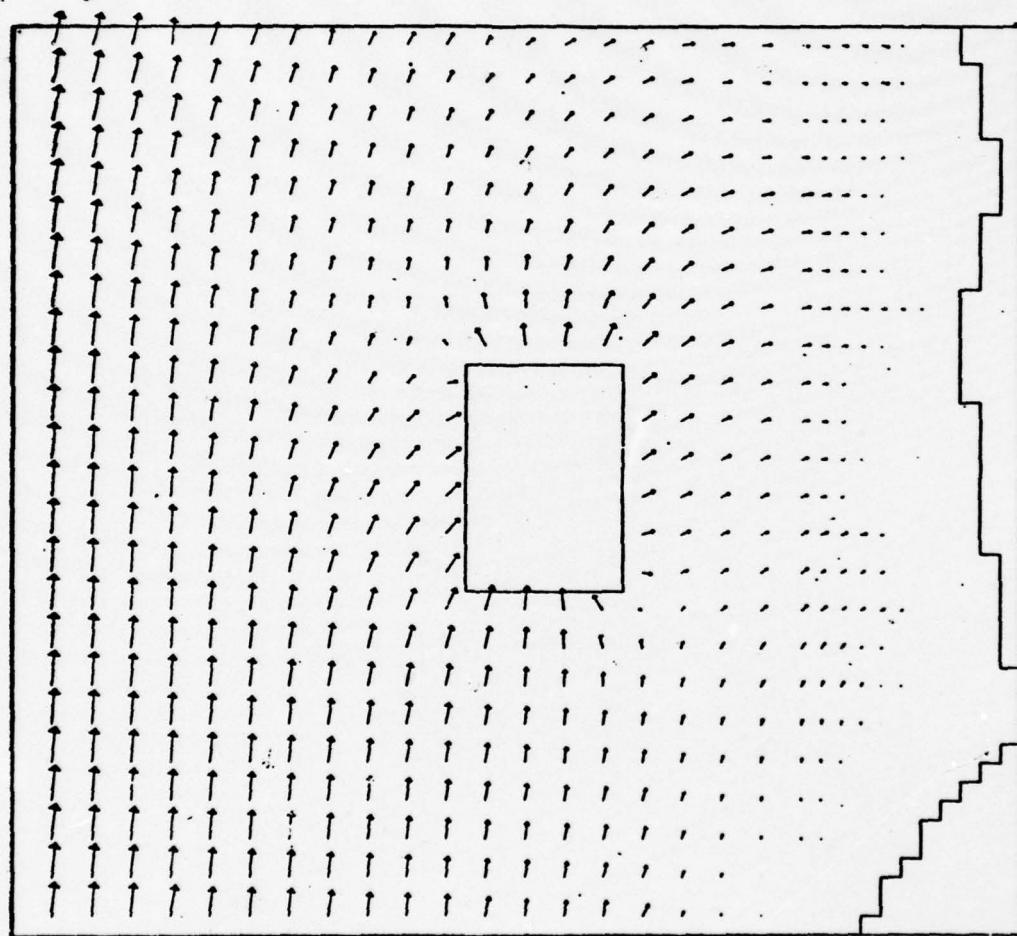
VECTOR LENGTH = 1 FOOT/SEC =



17 MPH.NE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 30.0 FT

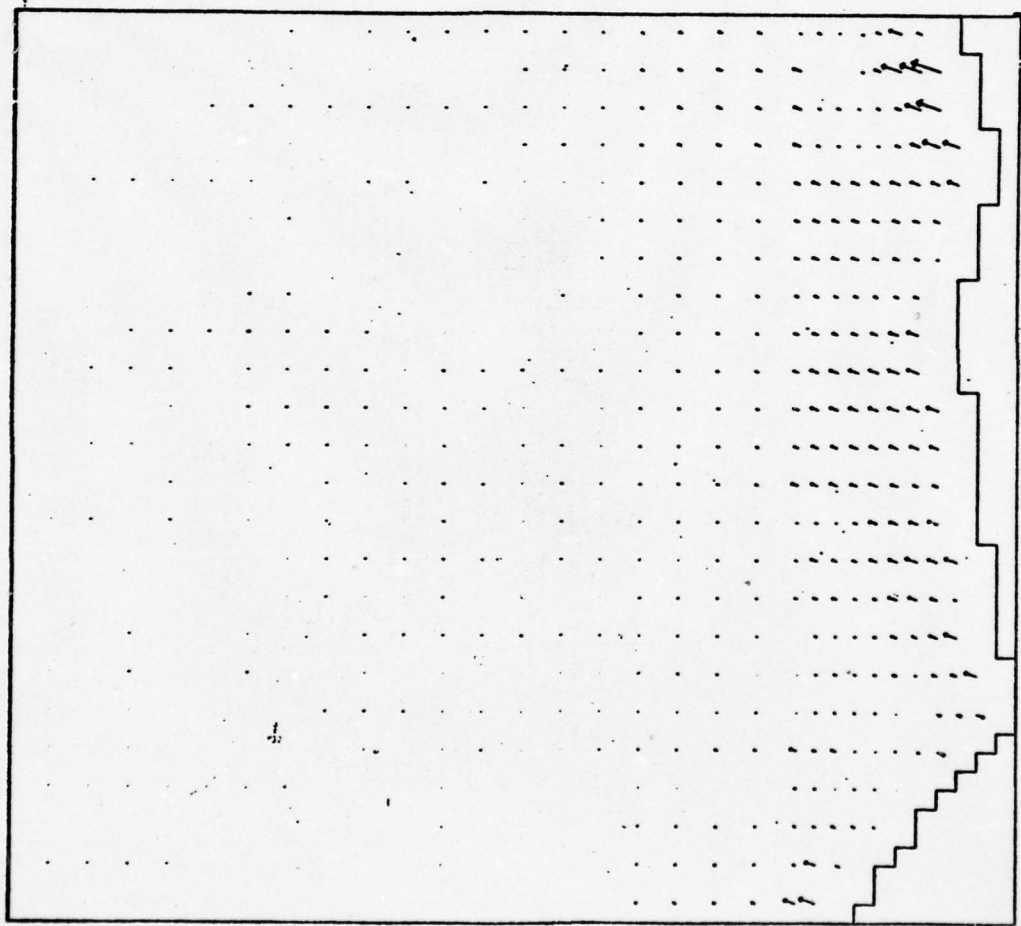
VECTOR LENGTH = 1 FOOT/SEC = 1.0



17 MPH.NE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 40.0 FT

VECTOR LENGTH = 1 FOOT/SEC = 1.0



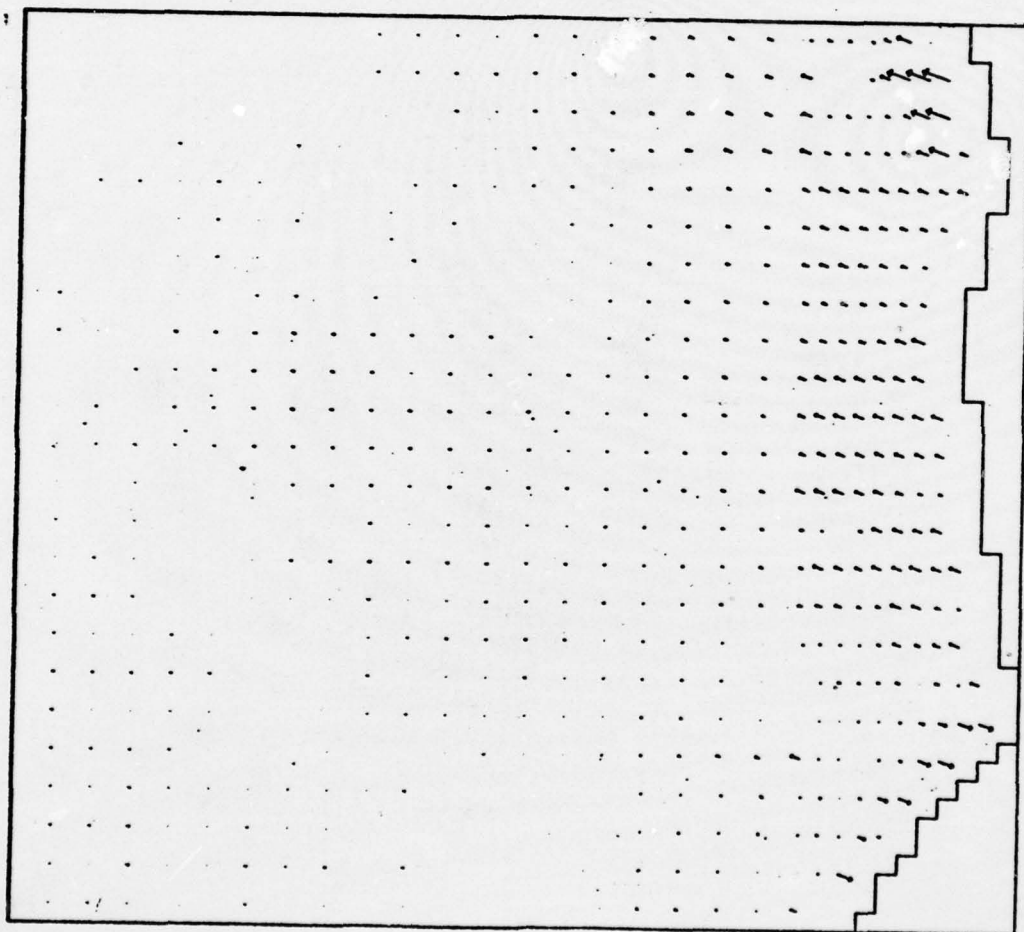
17 MPH.NE

10.0 FT

SURFACE OF

VECTOR LENGTH = 1 FOOT/SEC =

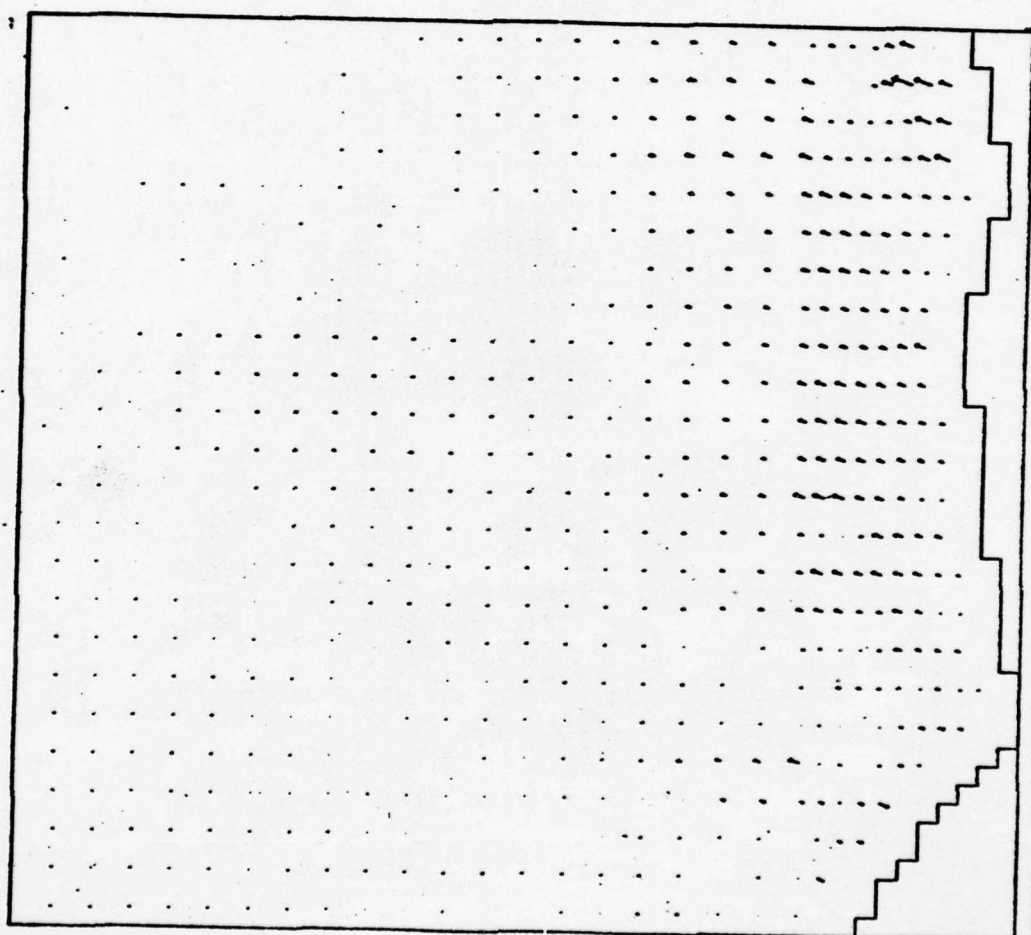
500.0



17 MPH.ME

20.0 FT 500.0

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF
VECTOR LENGTH = 1 FOOT/SEC =



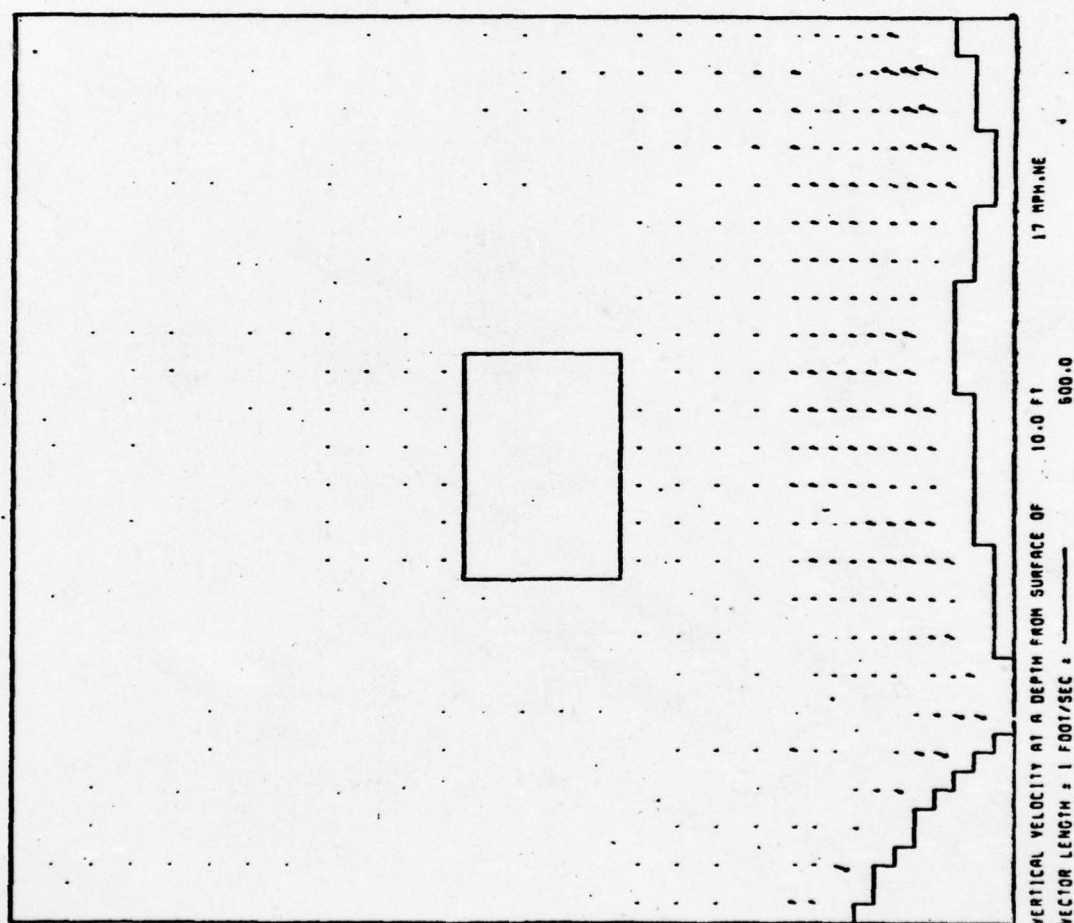
17 MPH, NE

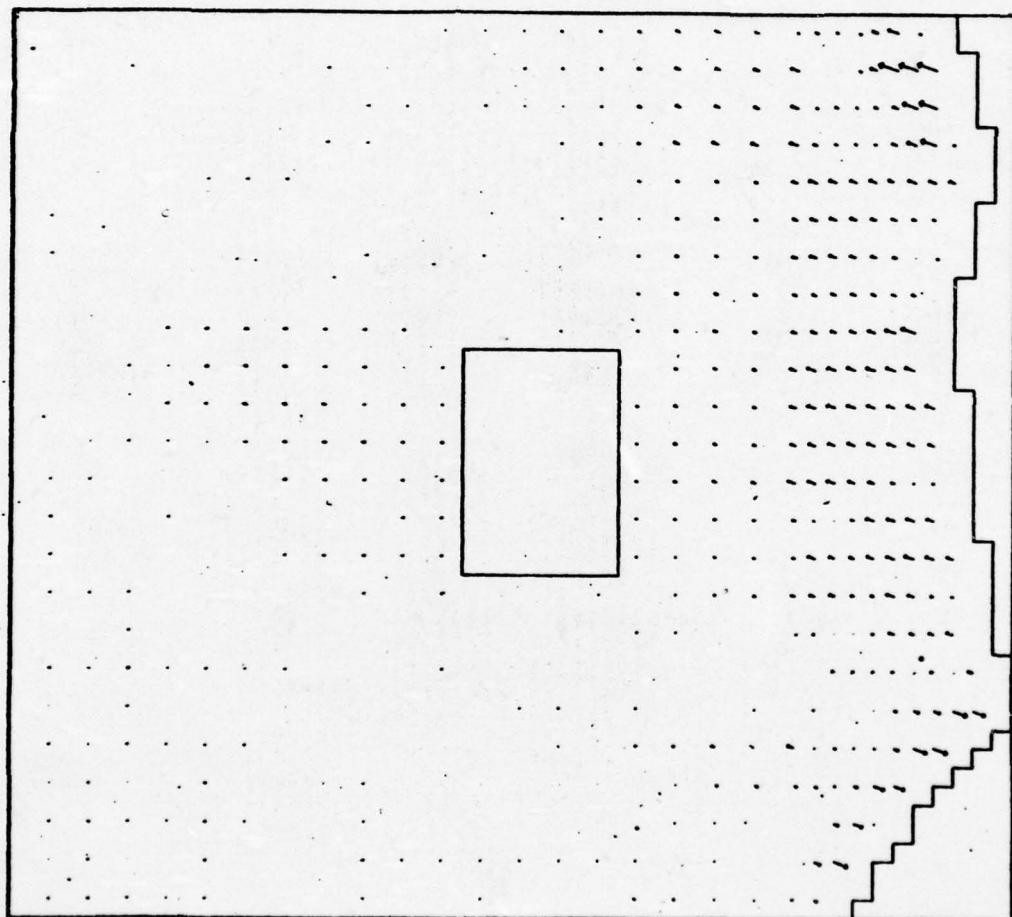
30.0 FT

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

500.0

VECTOR LENGTH = 1 FOOT/SEC =



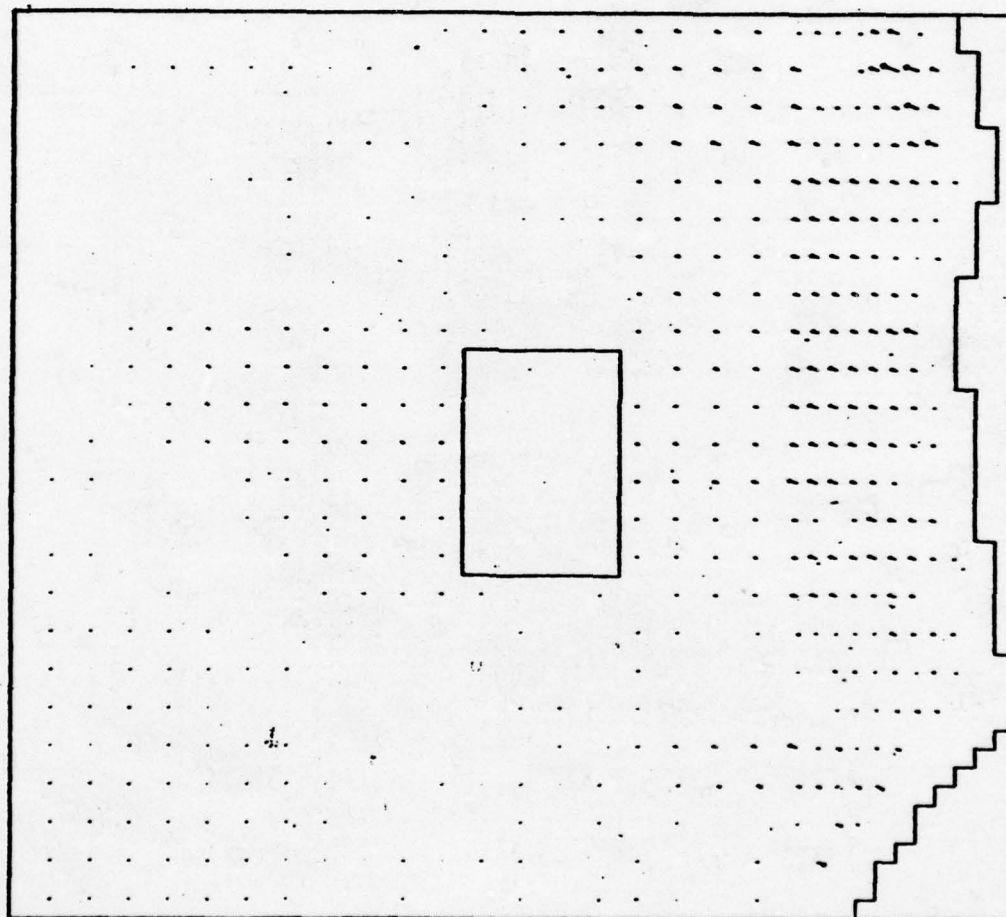


17 MPH.NE

20.0 FT

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

VECTOR LENGTH = 1 FOOT/SEC =



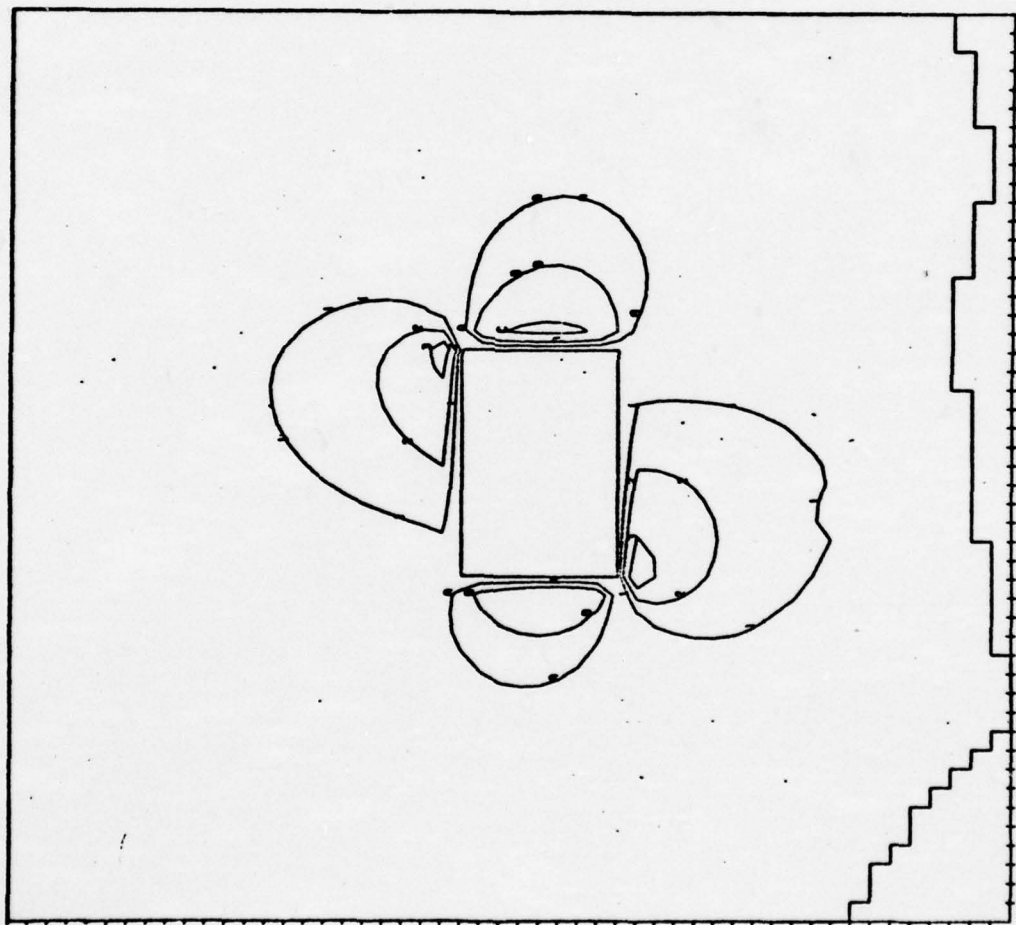
VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF 30.0 FT
VECTOR LENGTH : 1 FOOT/SEC : _____

17 MPH NE

600.0

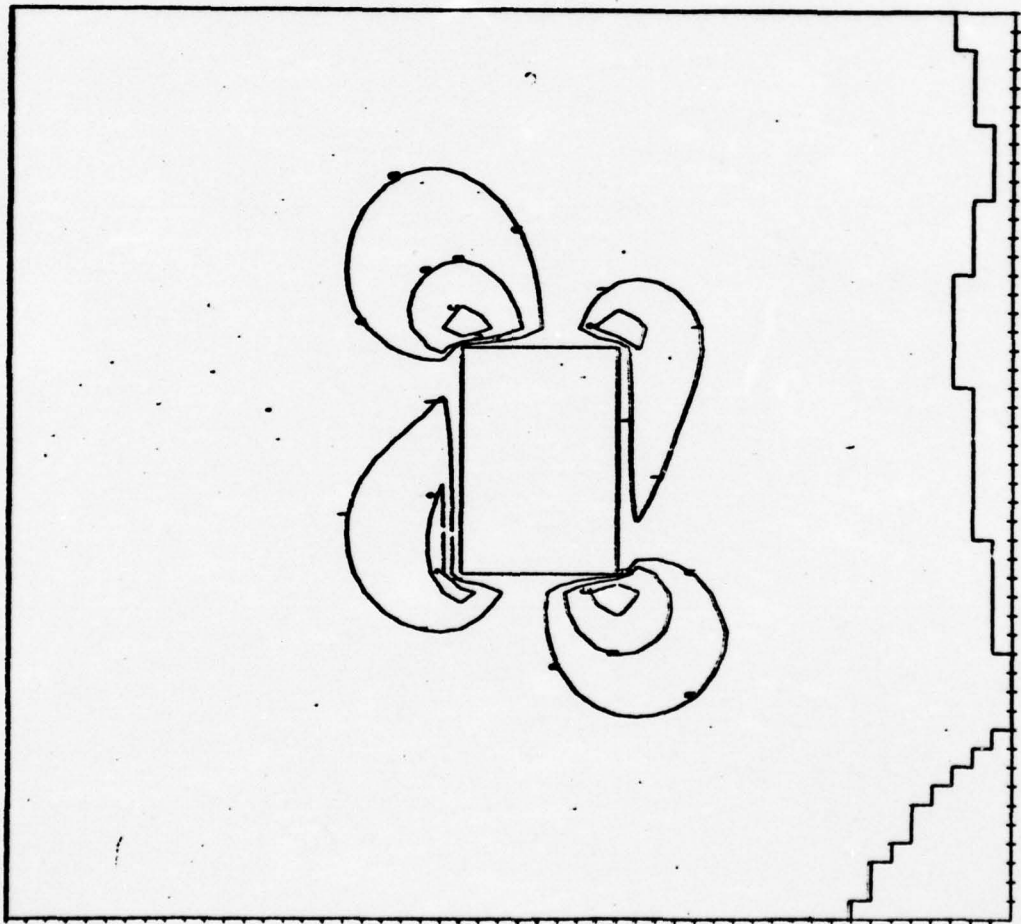
SYMBOLS
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

CONTOUR LEVELS
 0.050
 0.100
 0.200
 0.400
 0.600
 0.800
 1.000
 1.500
 2.000
 -0.050
 -0.100
 -0.200
 -0.400
 -0.600
 -0.800
 -1.000
 -1.500
 -2.000



CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

U.D=0.M=17NE



SYMBOLS

CONTOUR LEVELS

0.000
0.100
0.200
0.300
0.400
0.500
0.600
0.700
0.800
0.900
1.000
1.100
1.200
1.300
1.400
1.500
1.600
1.700
1.800
1.900
2.000

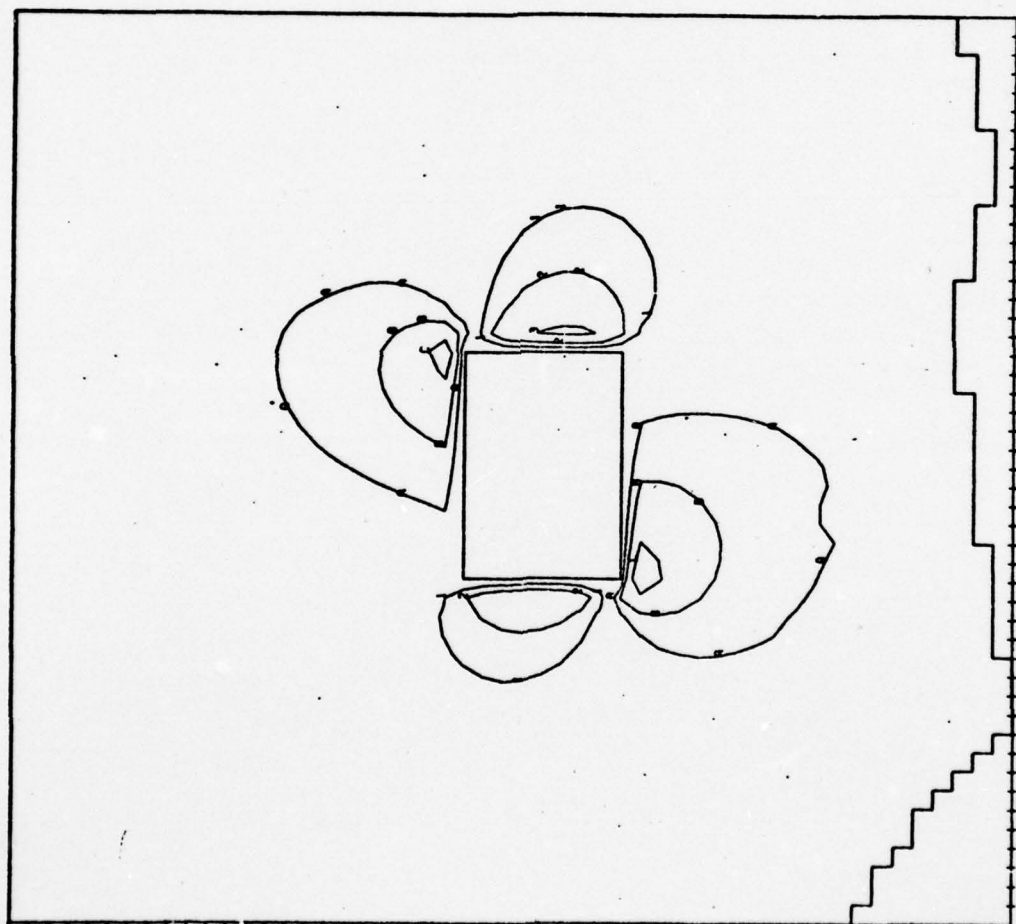
CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

V.D=0.0 H=17NE

SYMBOLS

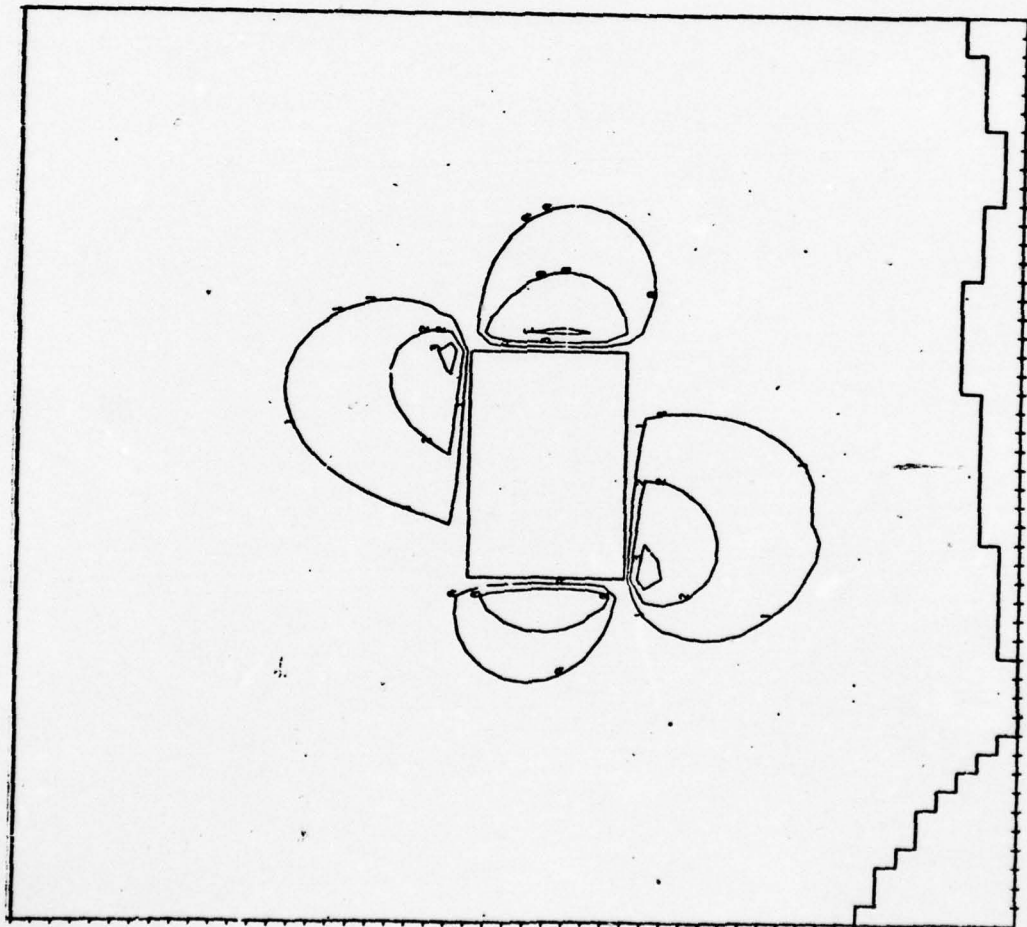
CONTOUR LEVELS

0.050
0.100
0.200
0.400
0.600
0.800
1.000
1.200
1.400
1.600
1.800
2.000
-0.050
-0.100
-0.200
-0.400
-0.600
-0.800
-1.000
-1.200
-1.400
-1.600
-1.800
-2.000



CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

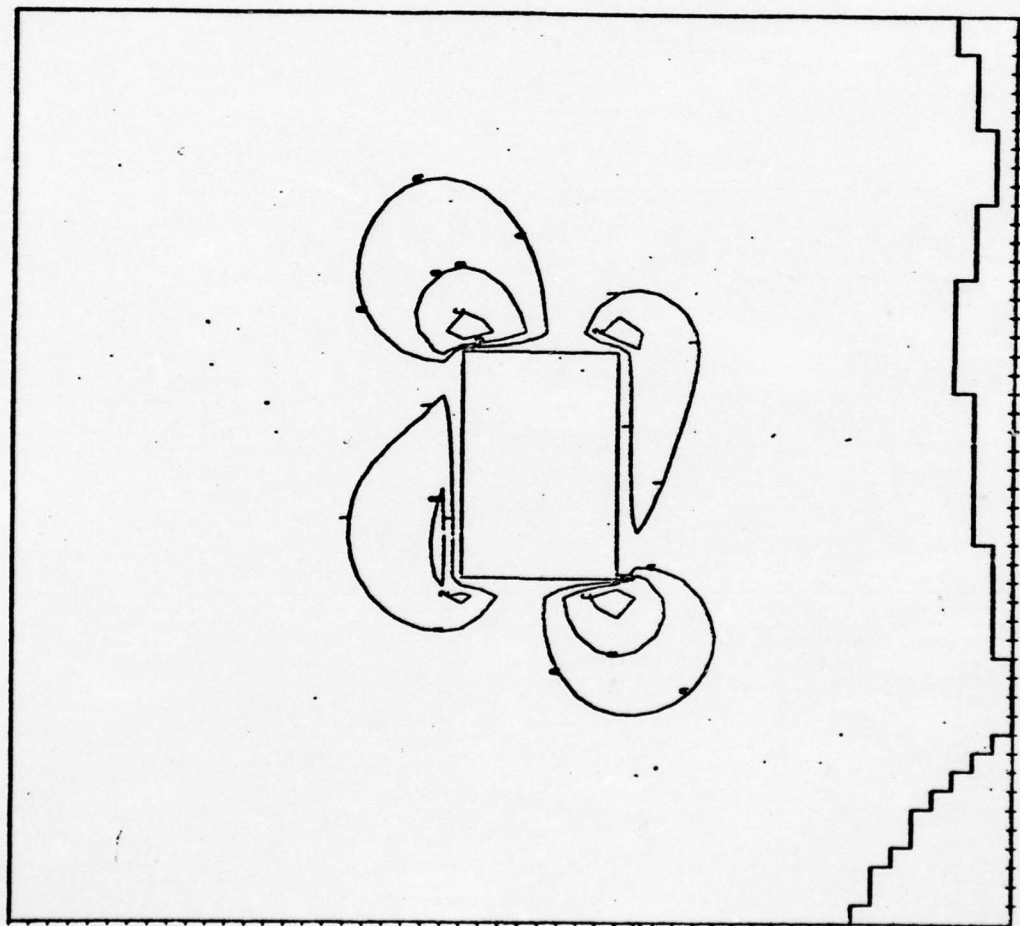
M.D.O.W=17NE



CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

U.D=15.M=17NC

SYMBOLS	CONTOUR LEVELS
1	0.050
2	0.100
3	0.200
4	0.400
5	0.600
6	0.800
7	1.000
8	1.500
9	2.000
10	0
11	-0.100
12	-0.200
13	-0.400
14	-0.600
15	-0.800
16	-1.000
17	-1.500
18	-2.000



SYMBOLS

CONTOUR LEVELS

0.050
0.100
0.200
0.400
0.600
0.800
1.000
1.500
2.000
-0.050
-0.100
-0.200
-0.400
-0.600
-0.800
-1.000
-1.500
-2.000

CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

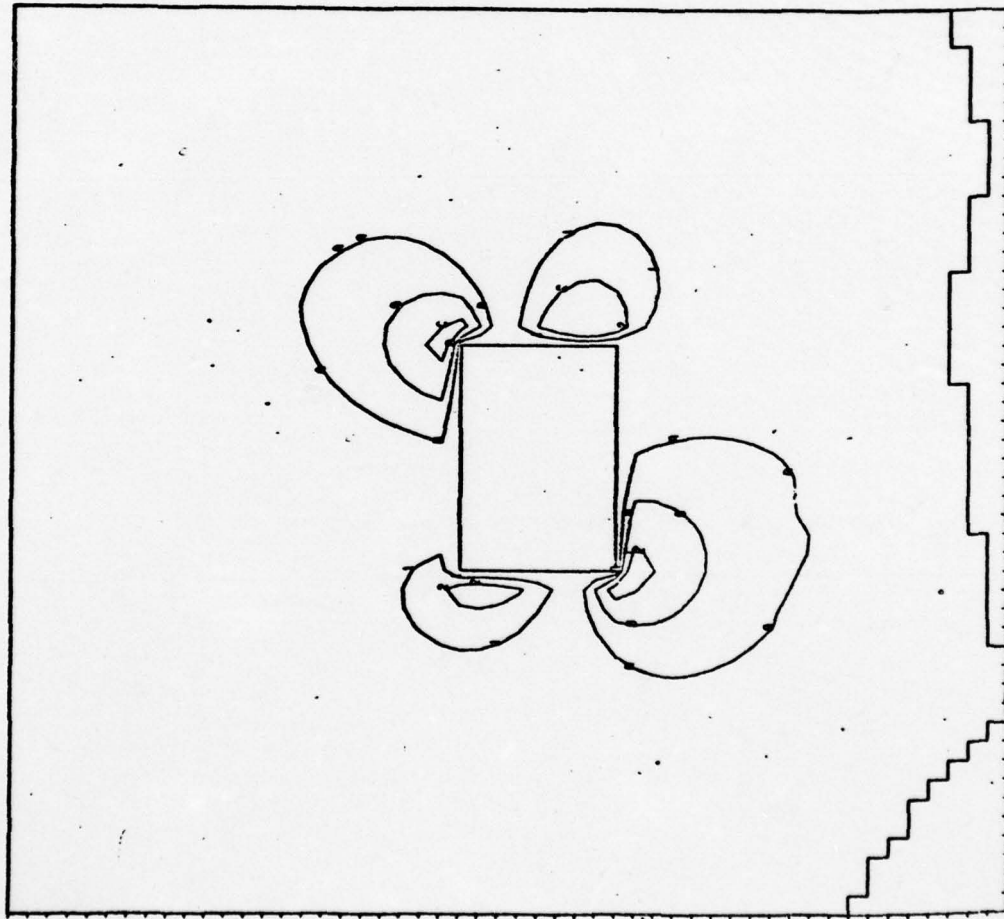
V.D=16.N=17NE

SYMBOLS

CONTOUR LEVELS

0.050
0.100
0.200
0.400
0.600
0.800
1.000
1.500
2.000
-0.050
-0.100
-0.200
-0.400
-0.600
-0.800
-1.000
-1.500
-2.000

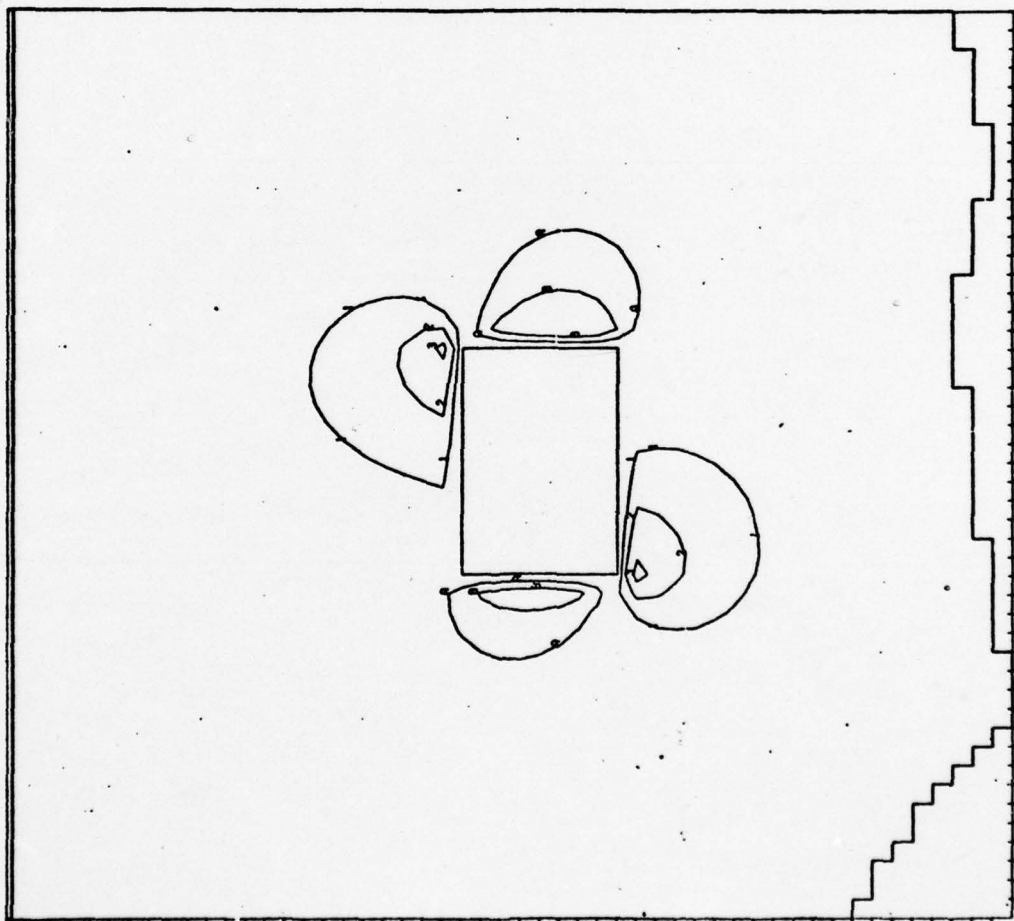
M.D. 15.4 1'N



CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

SYMBOLS
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

CONTOUR LEVELS
0.000
0.100
0.200
0.300
0.400
0.500
0.600
0.700
0.800
0.900
1.000
1.100
1.200
1.300
1.400
1.500
1.600
1.700
1.800
1.900
2.000
-0.050
-0.100
-0.150
-0.200
-0.250
-0.300
-0.350
-0.400
-0.450
-0.500
-0.550
-0.600
-0.650
-0.700
-0.750
-0.800
-0.850
-0.900
-0.950
-1.000
-1.050
-1.100
-1.150
-1.200
-1.250
-1.300
-1.350
-1.400
-1.450
-1.500
-1.550
-1.600
-1.650
-1.700
-1.750
-1.800
-1.850
-1.900
-1.950
-2.000



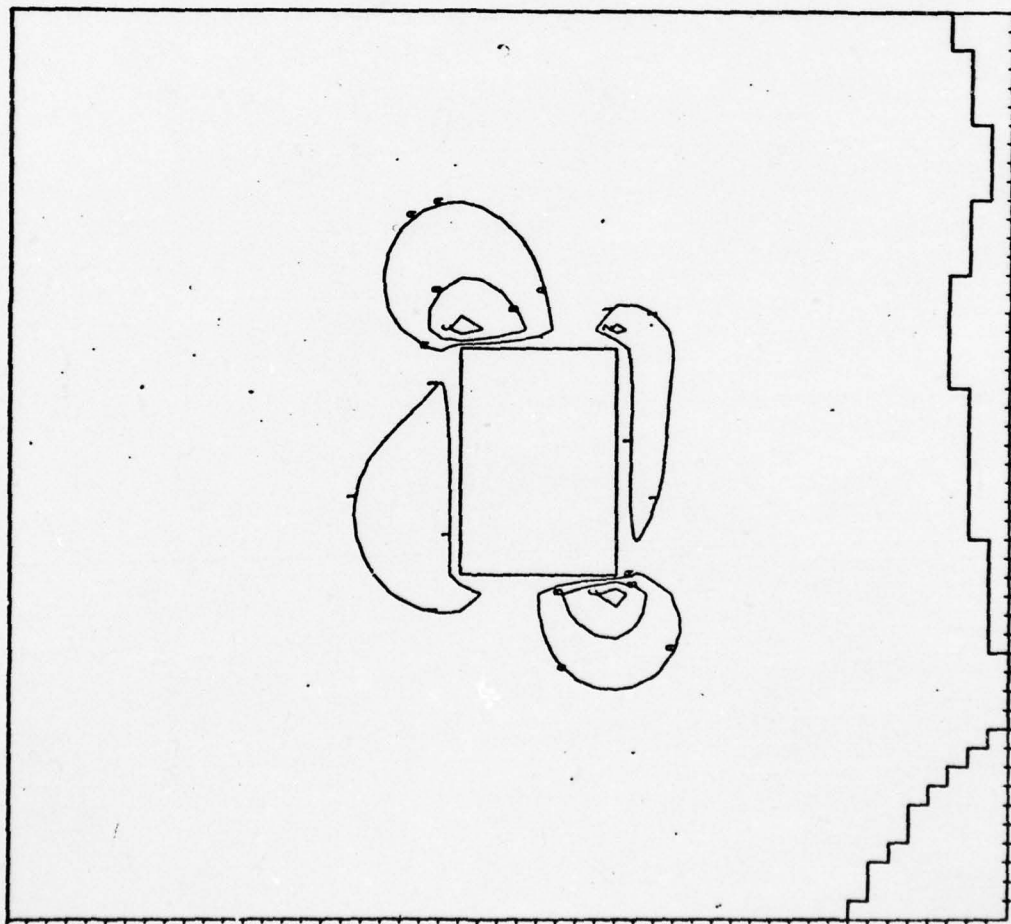
CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

U.D=30.W=17NE

SYMBOLS

1 2 3 4 5 6 7 8 9 A B C D E F G H I

CONTOUR LEVELS
 0.050
 0.100
 0.200
 0.400
 0.600
 0.800
 1.000
 1.500
 2.000
 -0.050
 -0.100
 -0.200
 -0.400
 -0.600
 -0.800
 -1.000
 -1.500
 -2.000



CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

V.O=30.H=17NE

AD-A036 242

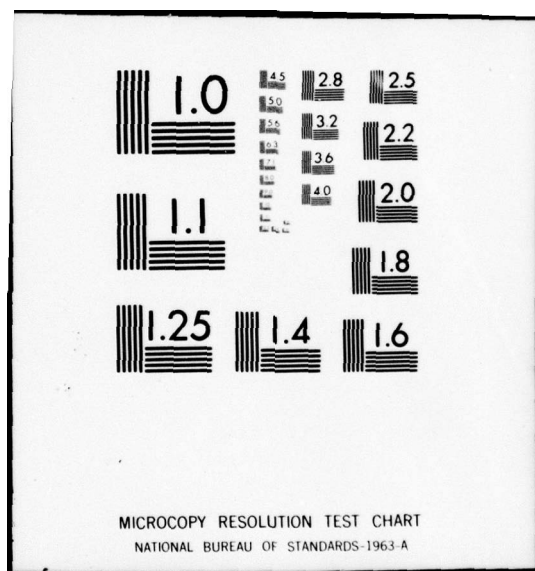
ARMY ENGINEER WATERWAYS EXPERIMENT STATION VICKSBURG MISS F/G 1/5
LAKE ERIE INTERNATIONAL JETPORT MODEL FEASIBILITY INVESTIGATION--ETC(U)
FEB 76 D L DURHAM, H L BUTLER
WES-MP-H-76-3-7

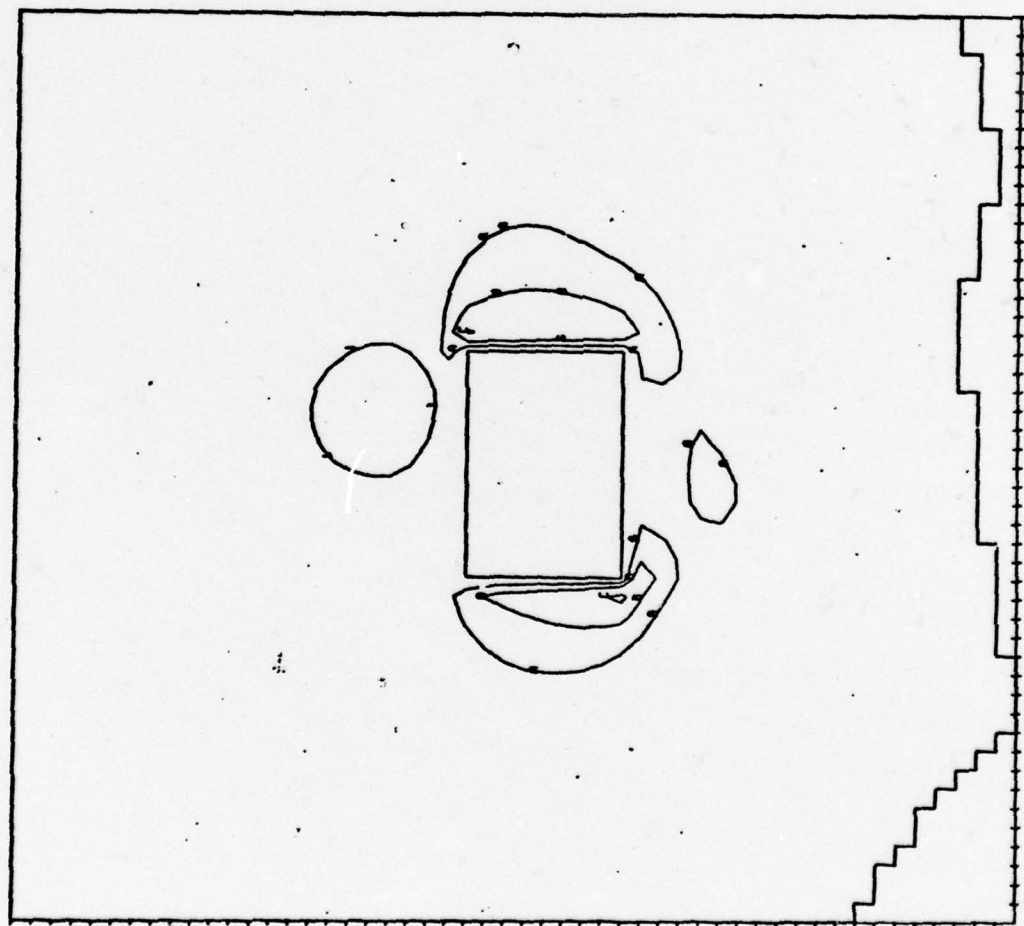
UNCLASSIFIED

NL

4 of 8
ADA036242



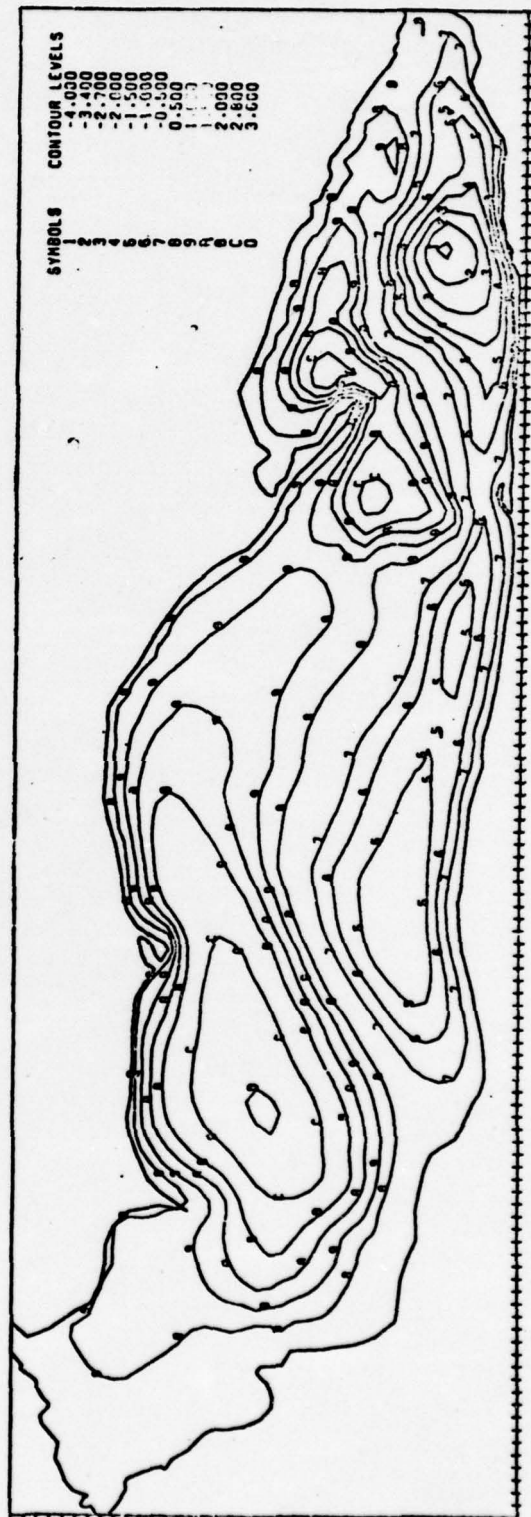


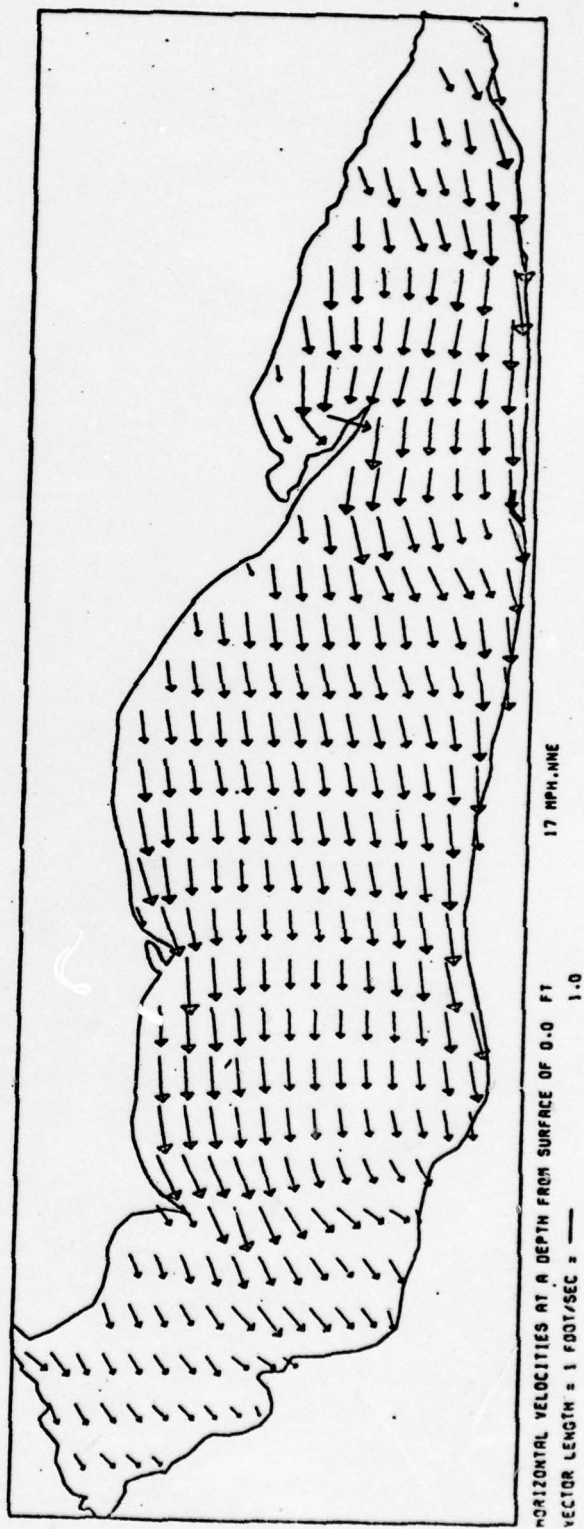


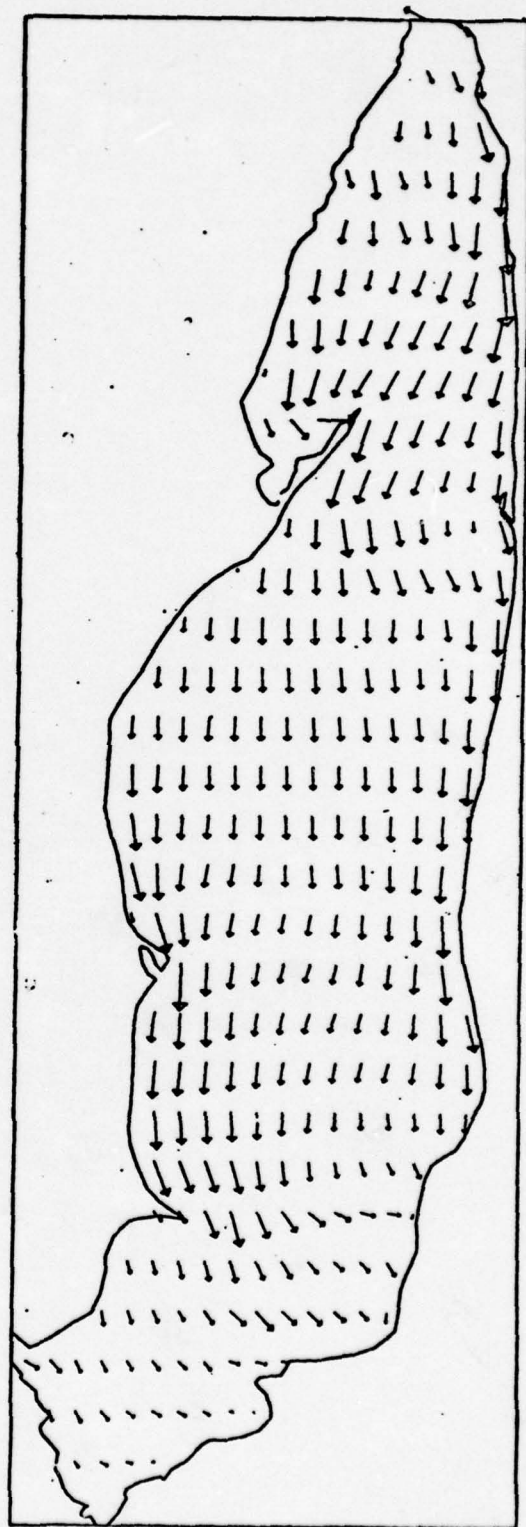
CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

M.O=30 .M=17NE

SYMBOLS
 0.050
 0.100
 0.200
 0.400
 0.600
 0.800
 1.000
 1.500
 2.000
 -0.050
 -0.100
 -0.200
 -0.400
 -0.600
 -0.800
 -1.000
 -1.500
 -2.000





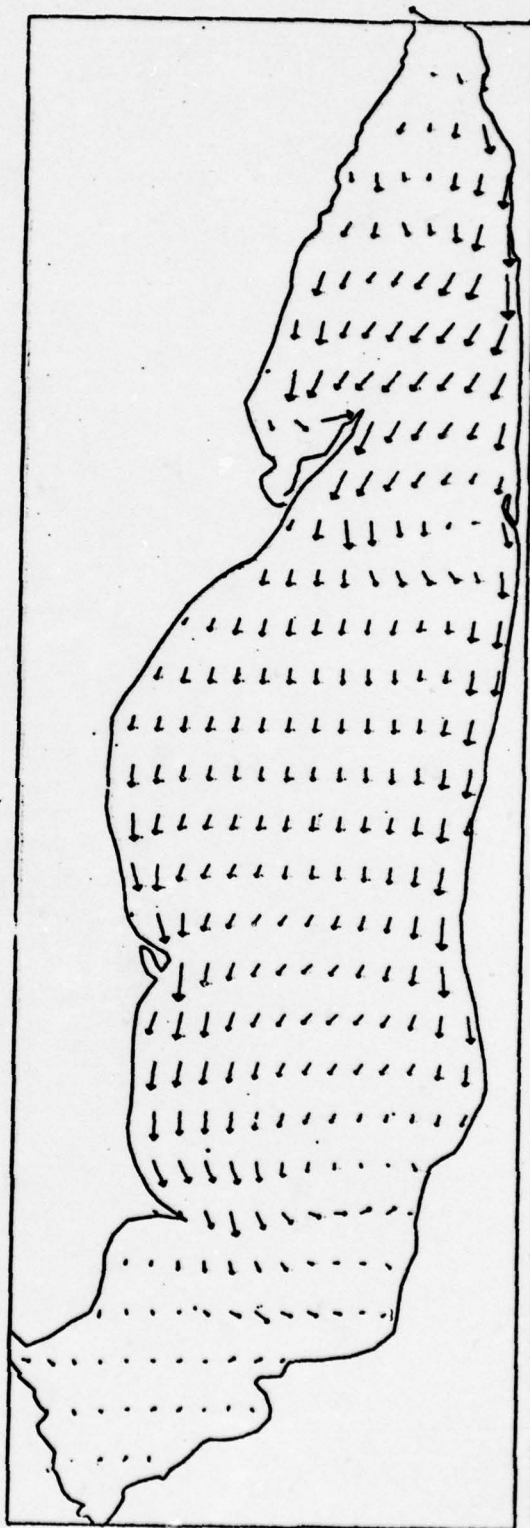


17 MPH/MNE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 5.0 FT

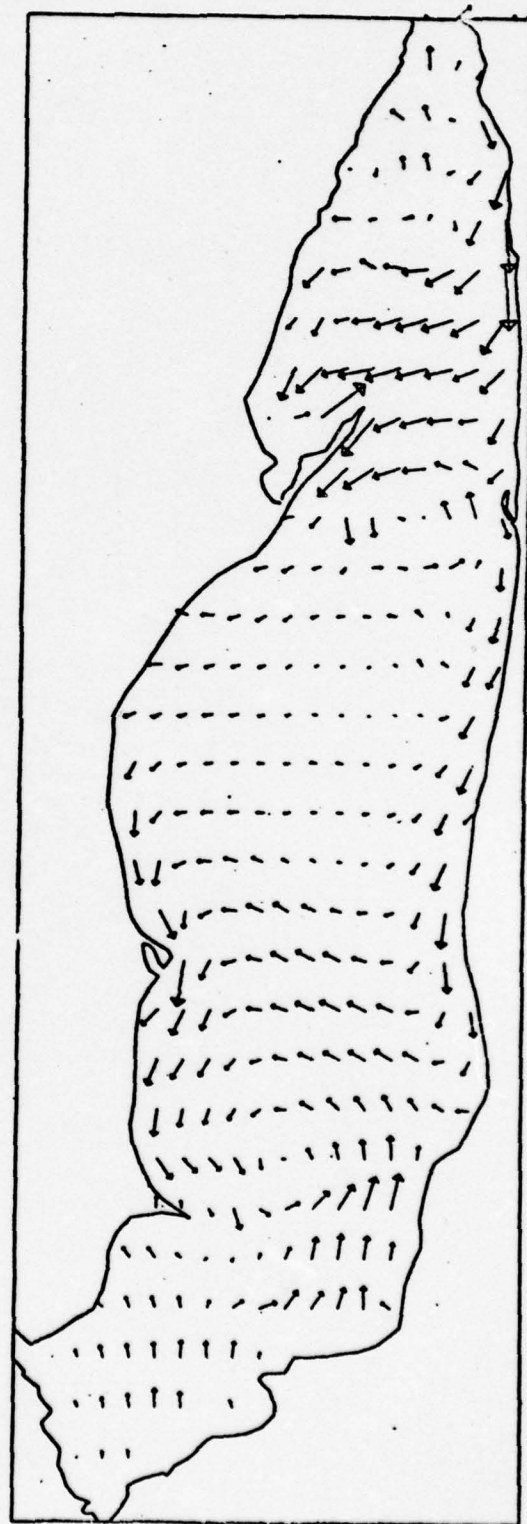
1.0

VECTOR LENGTH = 1 FOOT/SEC = —



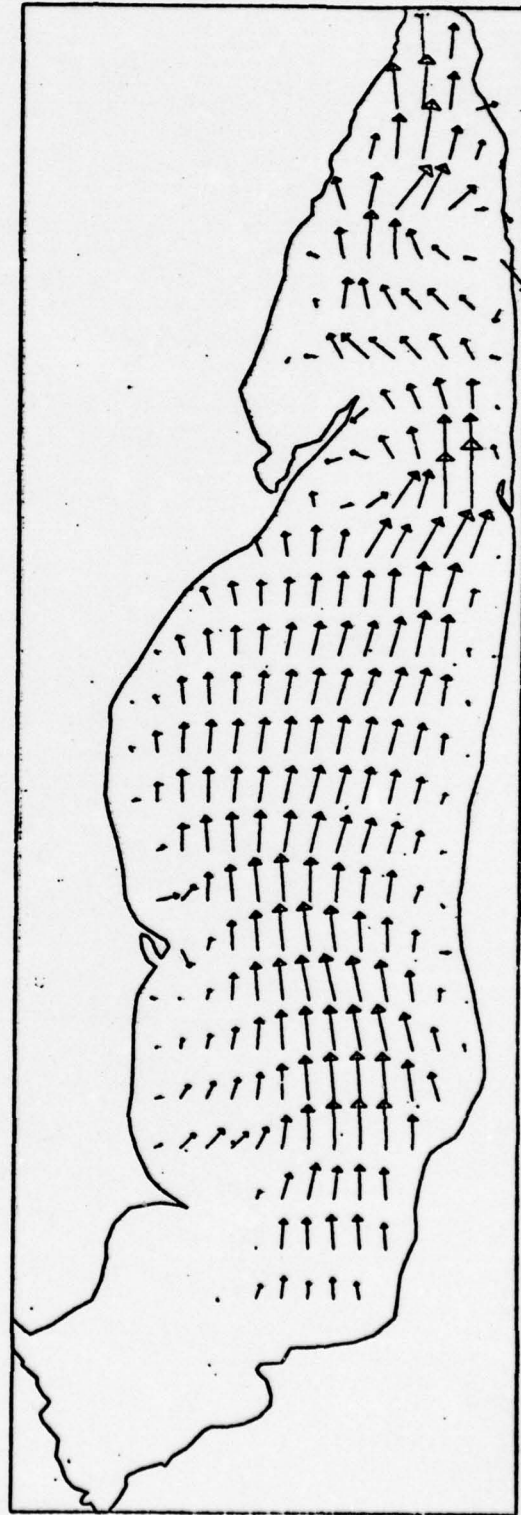
17 MPH, NNE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 10.0 FT
VECTOR LENGTH = 1 FOOT/SEC = —



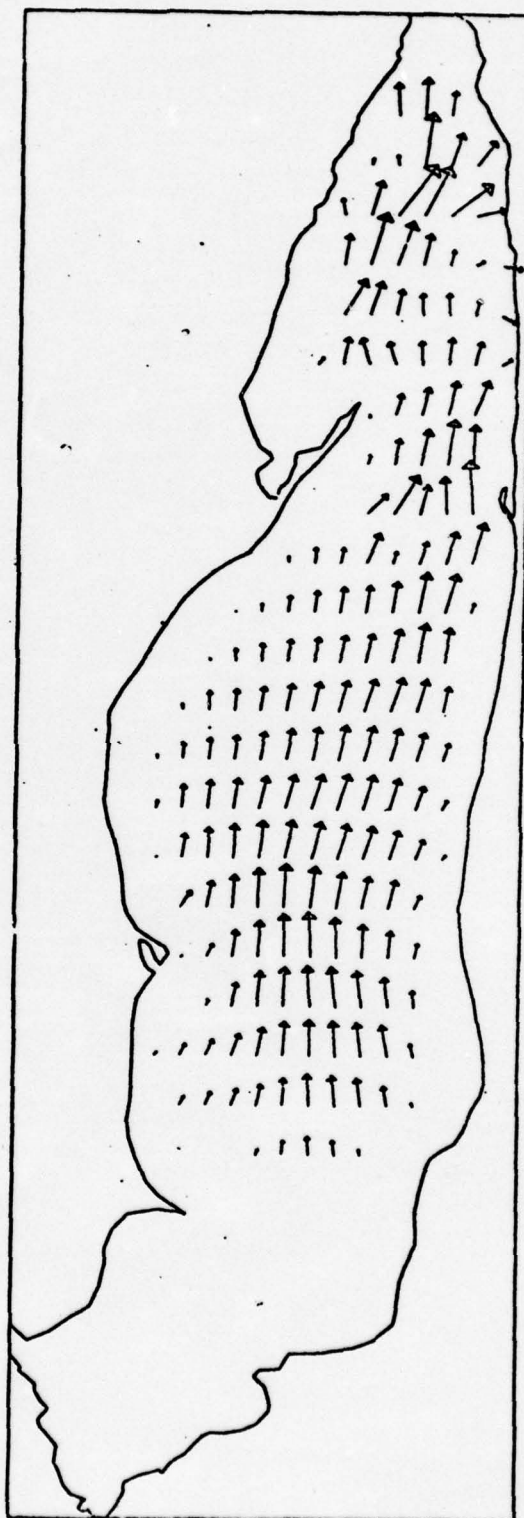
HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 20.0 FT
VECTOR LENGTH = 1 FOOT/SEC = 1.0

17 MPH.NNE



17 MPH.NNE

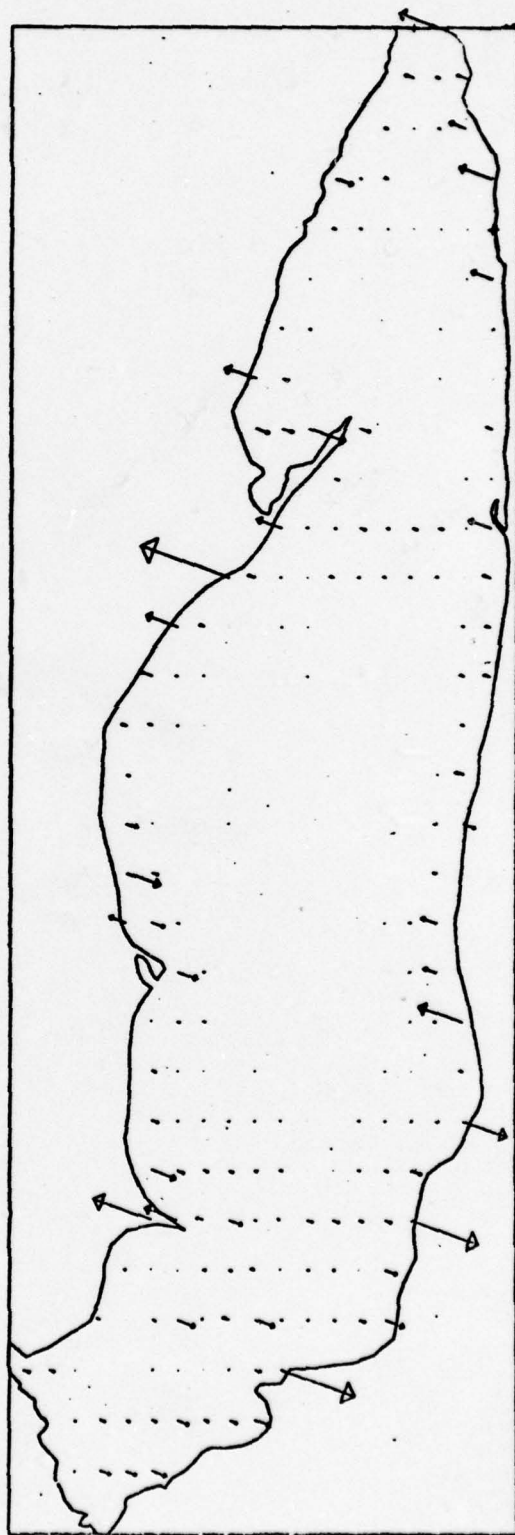
HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 40.0 FT
VECTOR LENGTH = 1 FOOT/SEC = 1.0



17 MPH.NNE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 60.0 FT

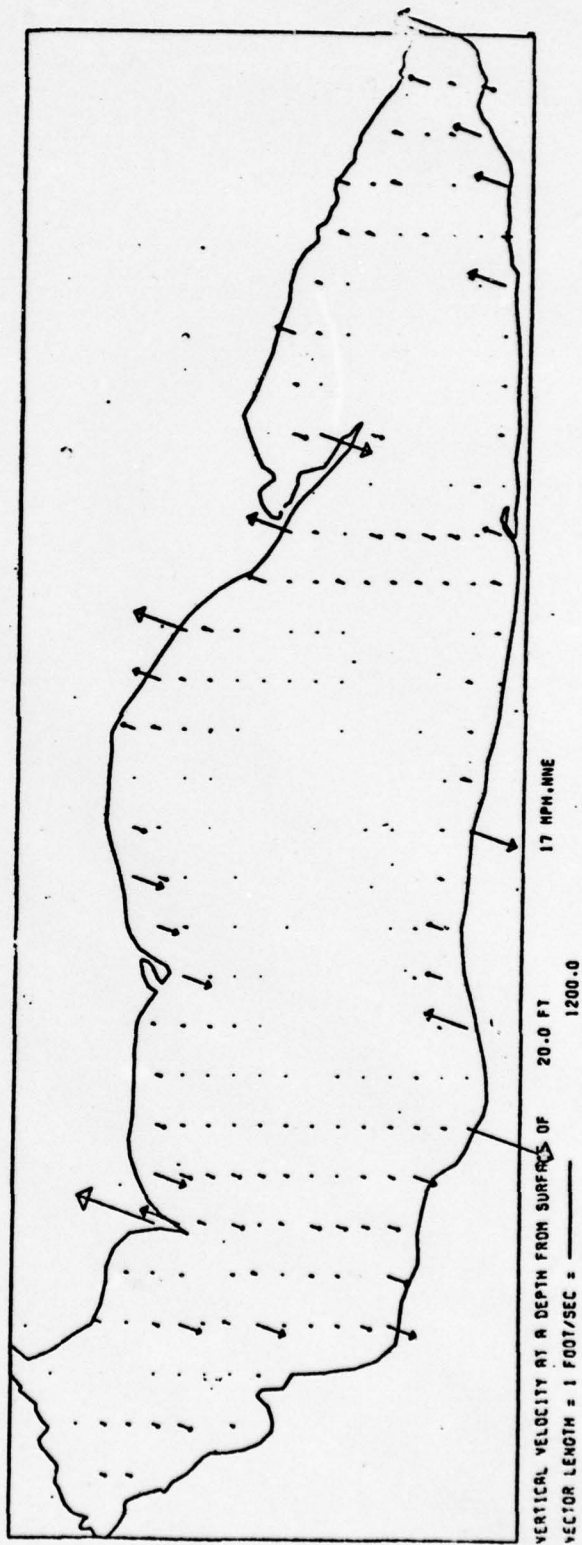
VECTOR LENGTH = 1 FOOT/SEC = 1.0

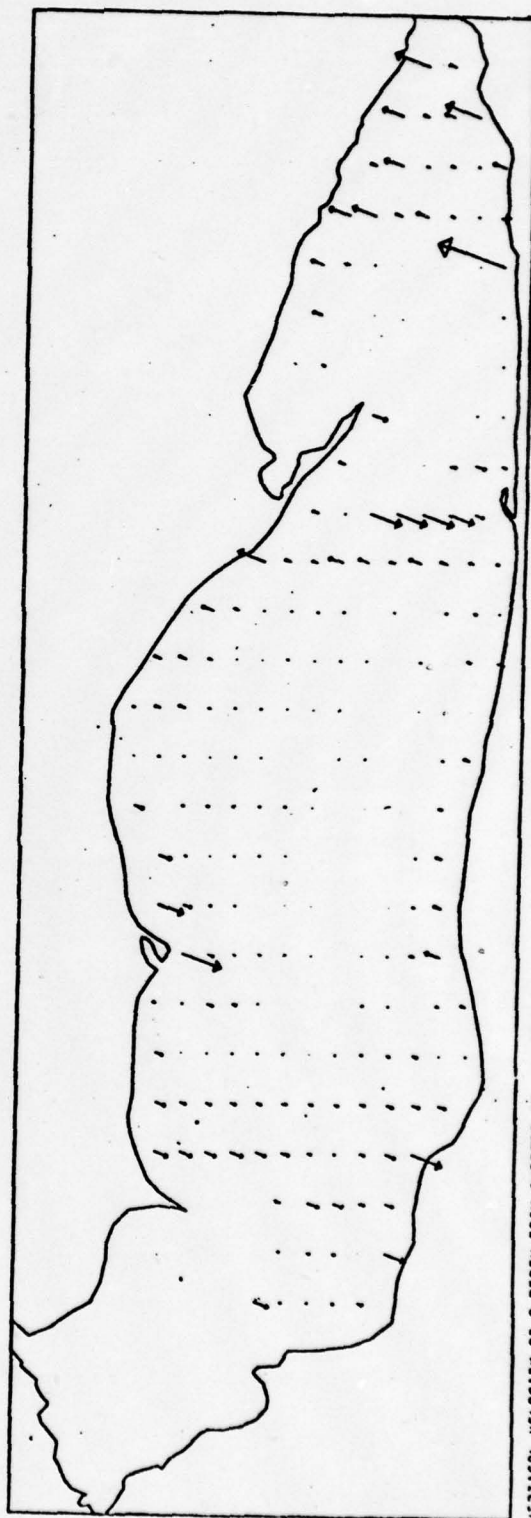


17 MPH.NNE

10.0 FT
1200.0

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF
VECTOR LENGTH = 1 FOOT/SEC =



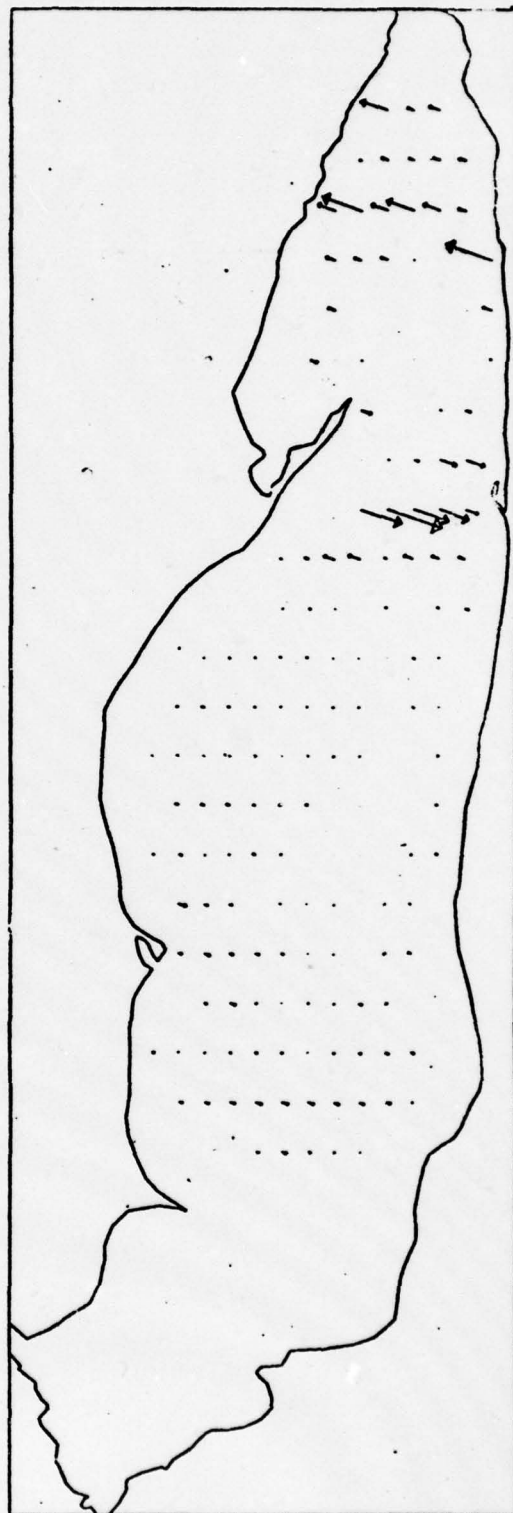


17 MPH-NNE

40.0 FT

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

VECTOR LENGTH = 1 FOOT/SEC =



17 MPH.NNE

60.0 FT

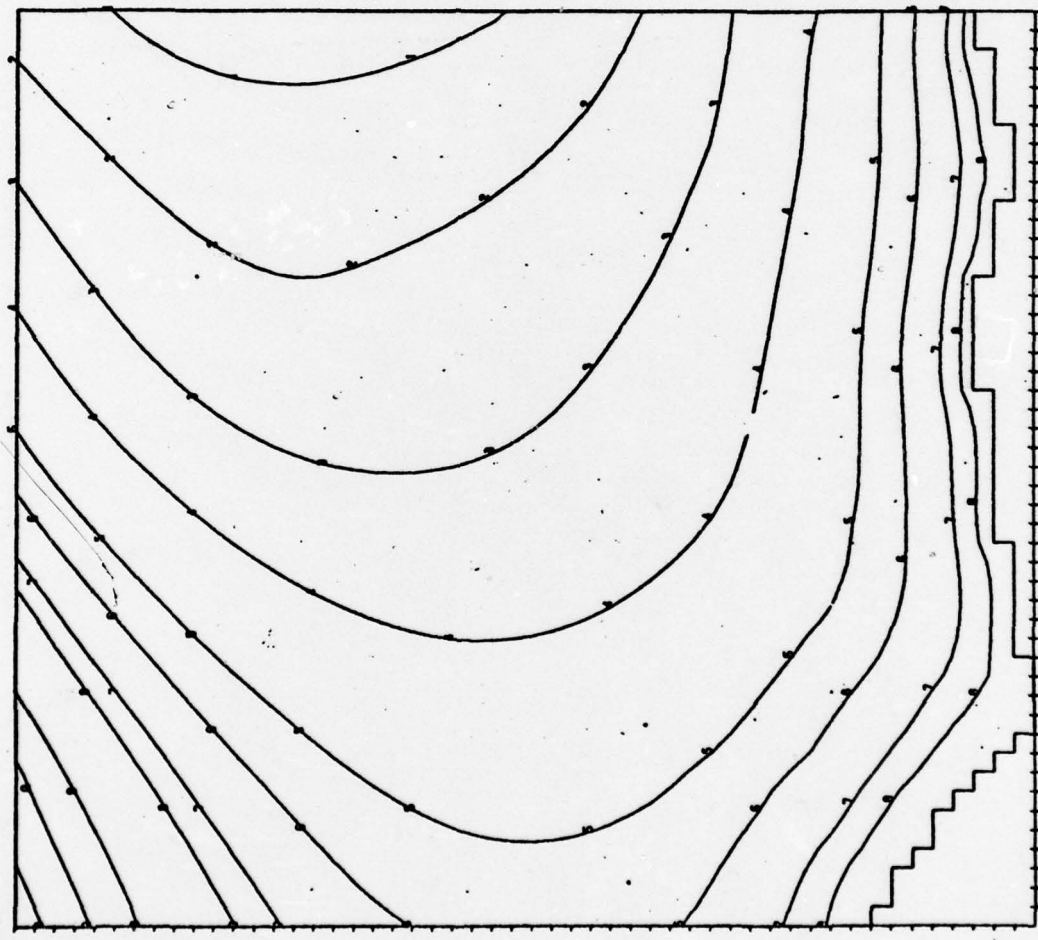
VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

1200.0

VECTOR LENGTH = 1 FOOT/SEC =

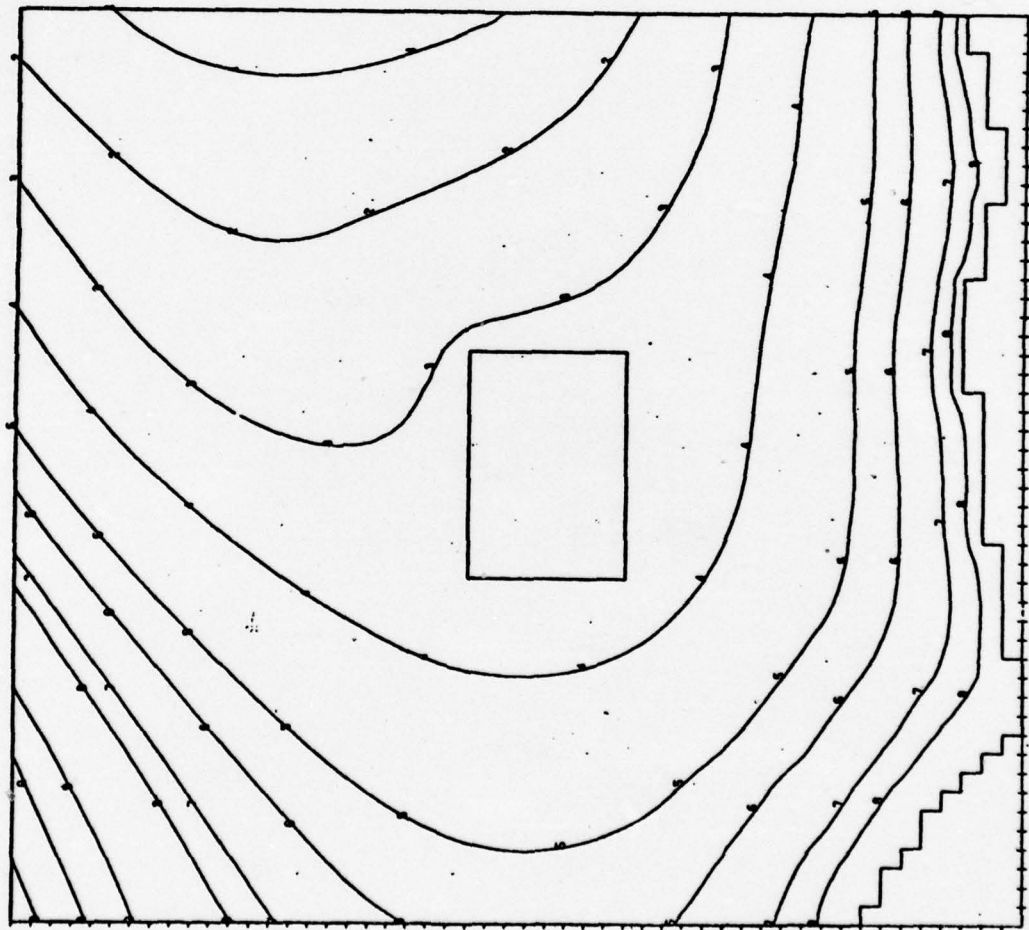
SYMBOLS
 1 2 3 4 5 6 7 8 9 10

CONTOUR LEVELS
 -1.100
 -0.900
 -0.700
 -0.500
 -0.300
 -0.100
 0.100
 0.300
 0.500
 0.700
 0.900
 1.100



CONTOURS OF STREAM FUNCTION FOR LAKE ERIE -- NEARSHORE

WA-17MPH.NNE

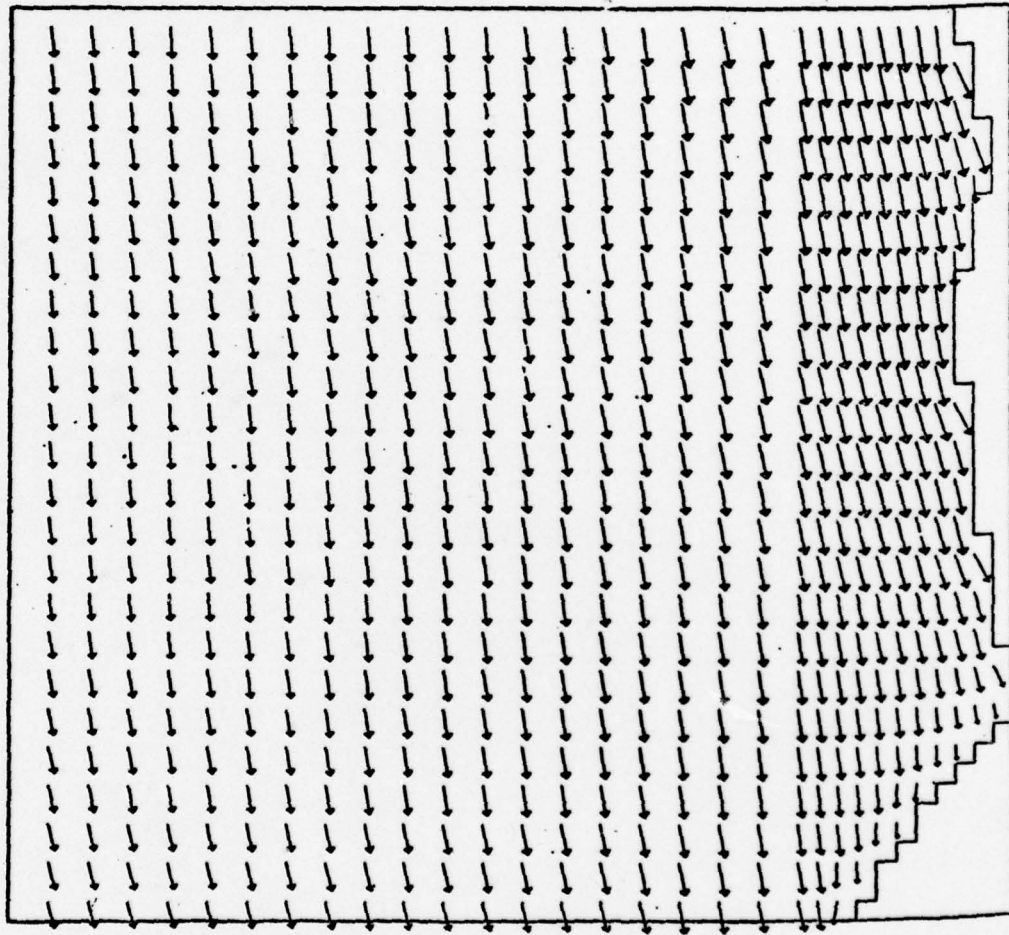


SYMBOLS
1
2
3
4
5
6
7
8
9
10
11

CONTOUR LEVELS
-1.100
-0.900
-0.700
-0.500
-0.300
-0.200
-0.100
0.050
0.160
0.240

CONTOURS OF STREAM FUNCTION FOR LAKE ERIE -- NEARSHORE

WA=17MPH.NNE

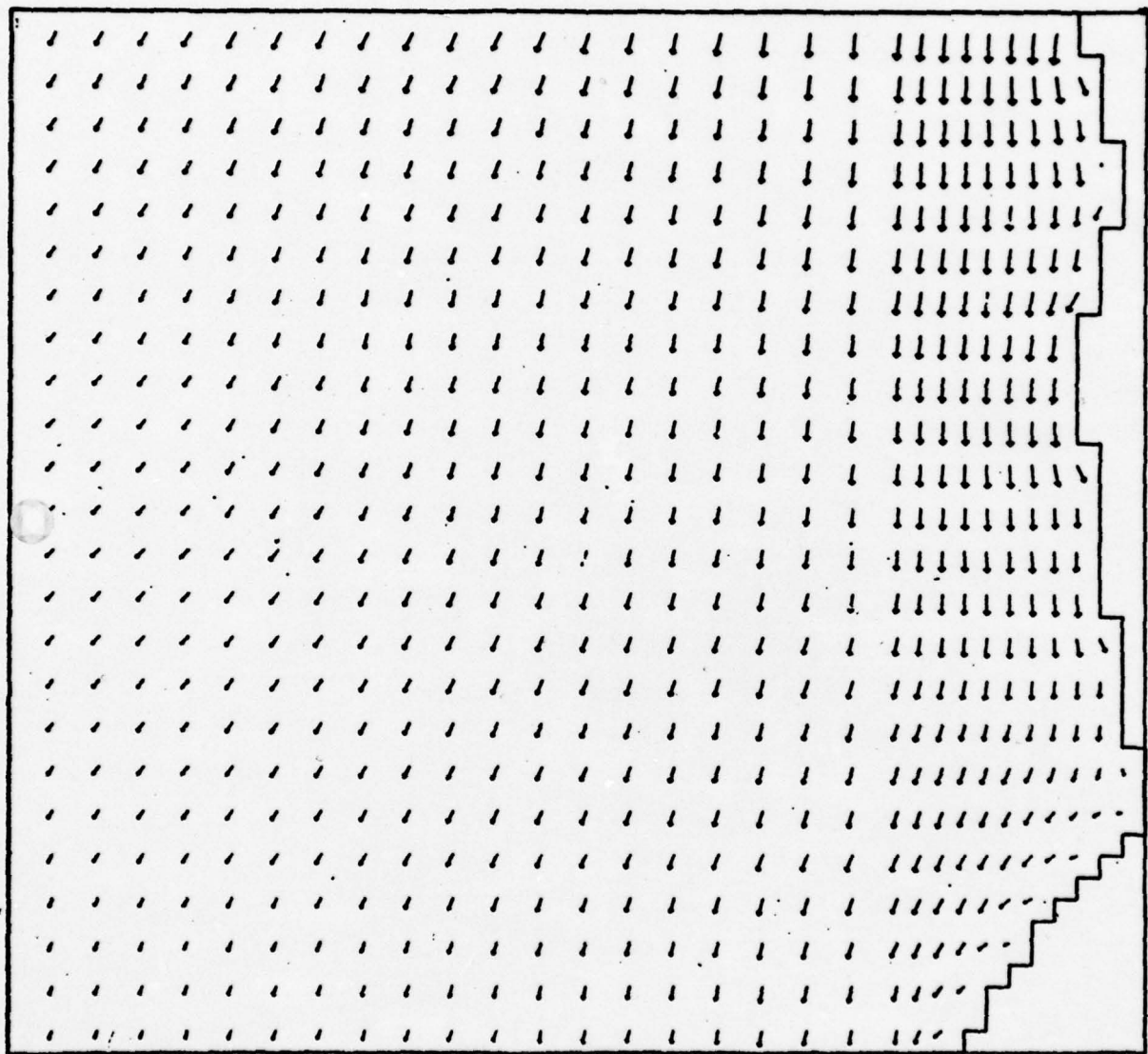


17 MPH/MMF

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 0.0 FT

1.0

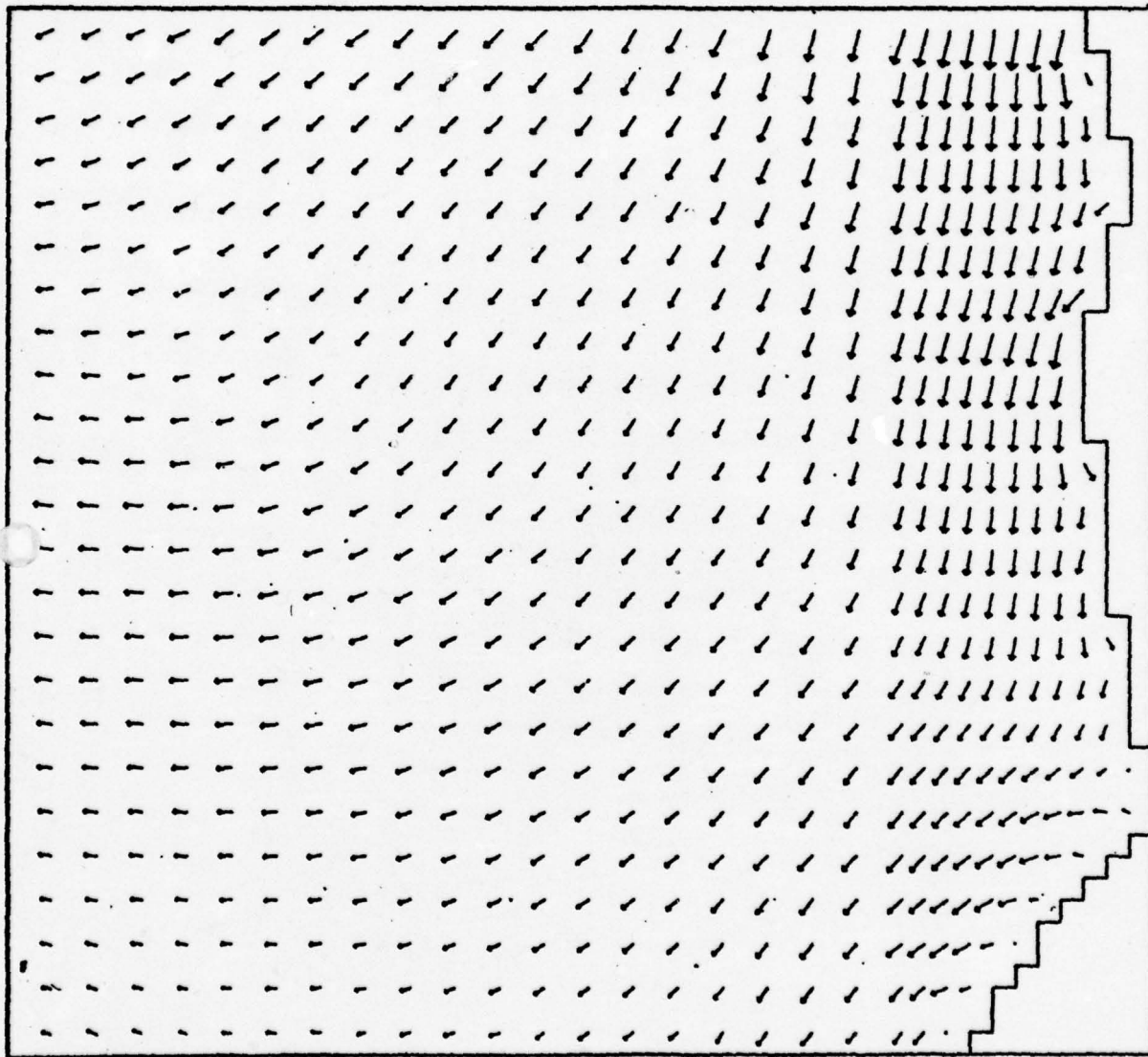
SECTION LENGTH = 1 FOOT/SEC =



17 MPH, NNE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 10.0 FT

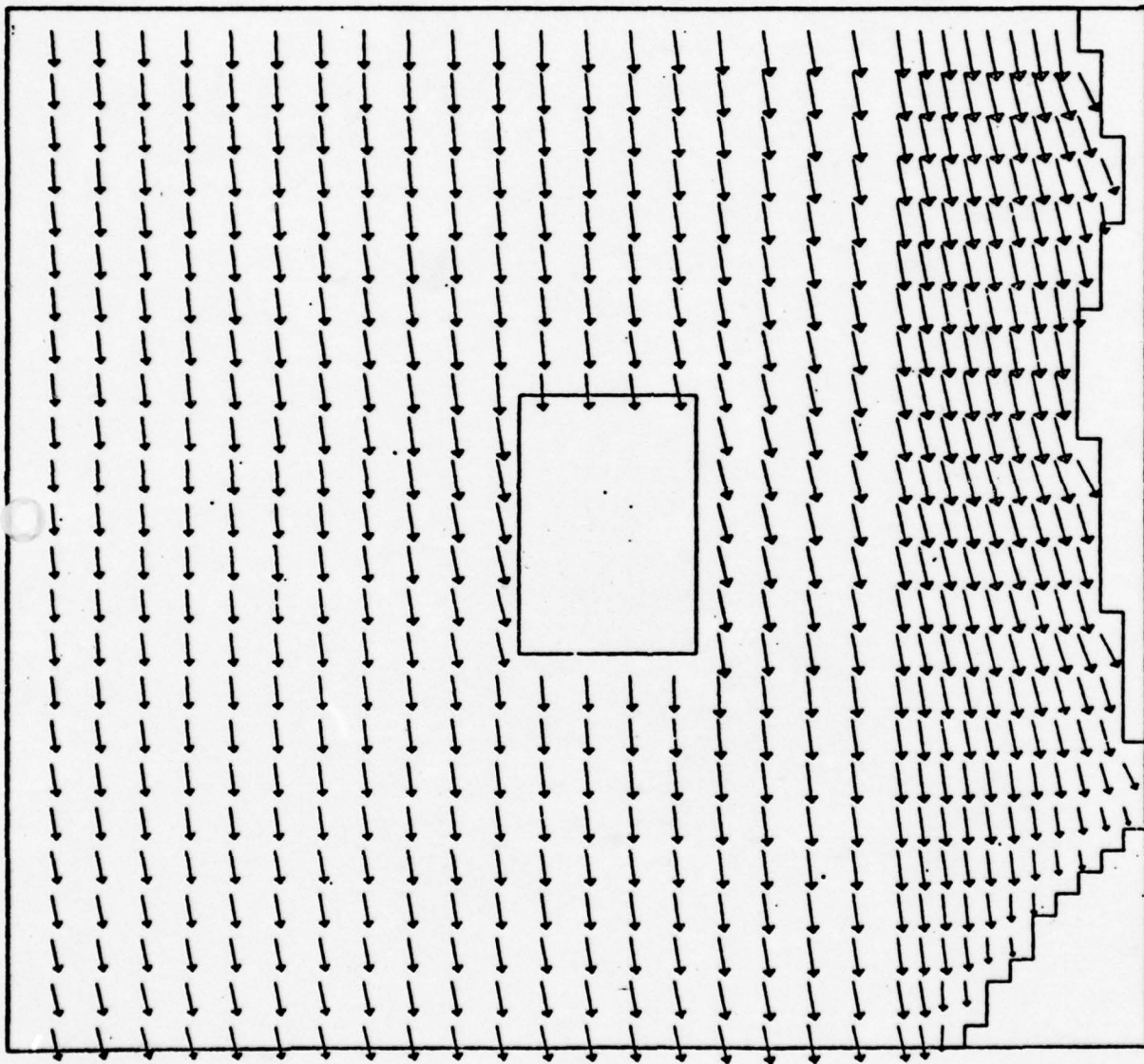
VECTOR LENGTH = 1 FOOT/SEC = — 1.0



17 MPH.NNE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 15.0 FT

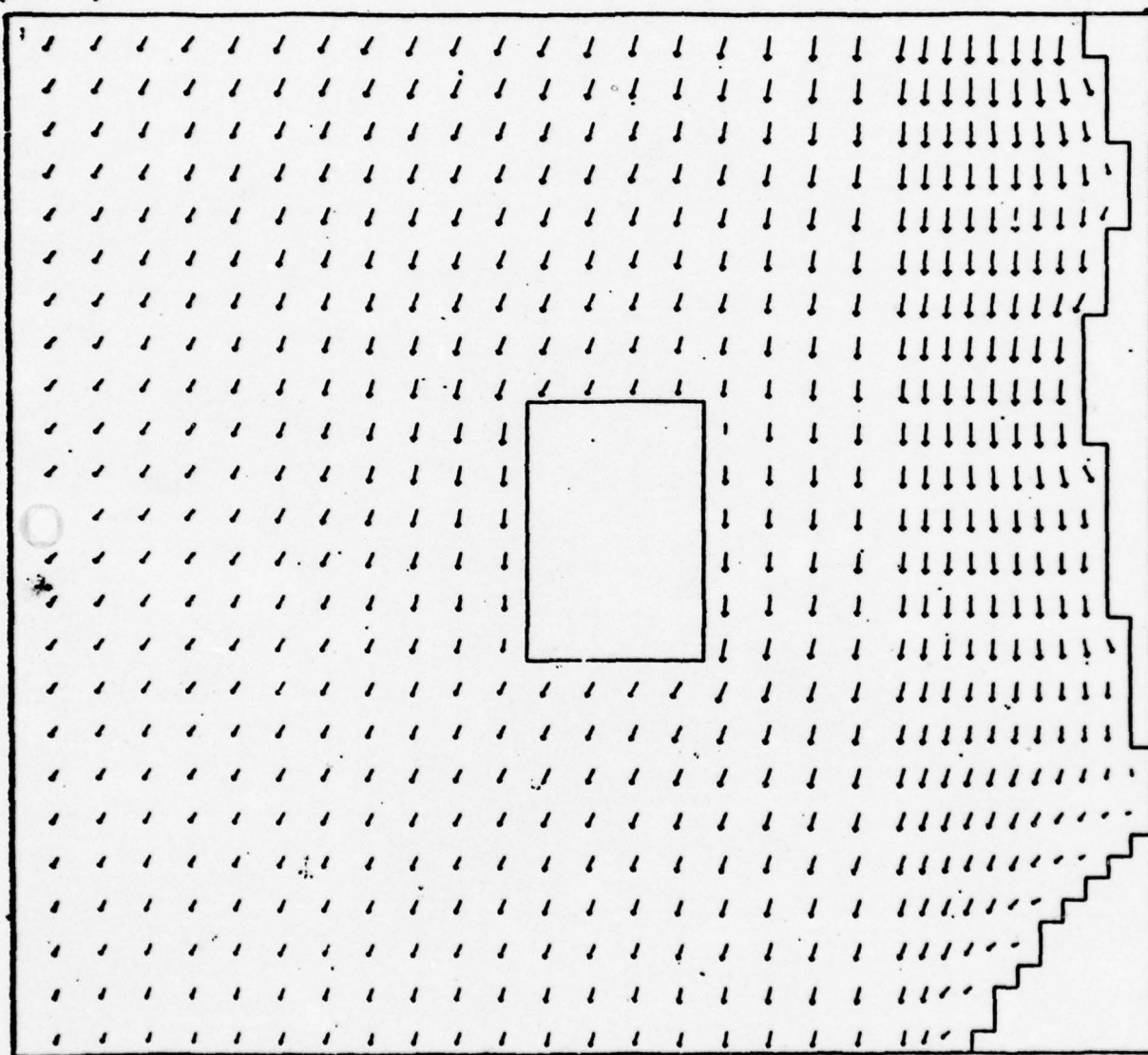
VECTOR LENGTH = 1 FOOT/SEC = 1.0



17 MPH, NNE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 0.0 FT

VECTOR LENGTH = 1 FOOT/SEC = — 1.0

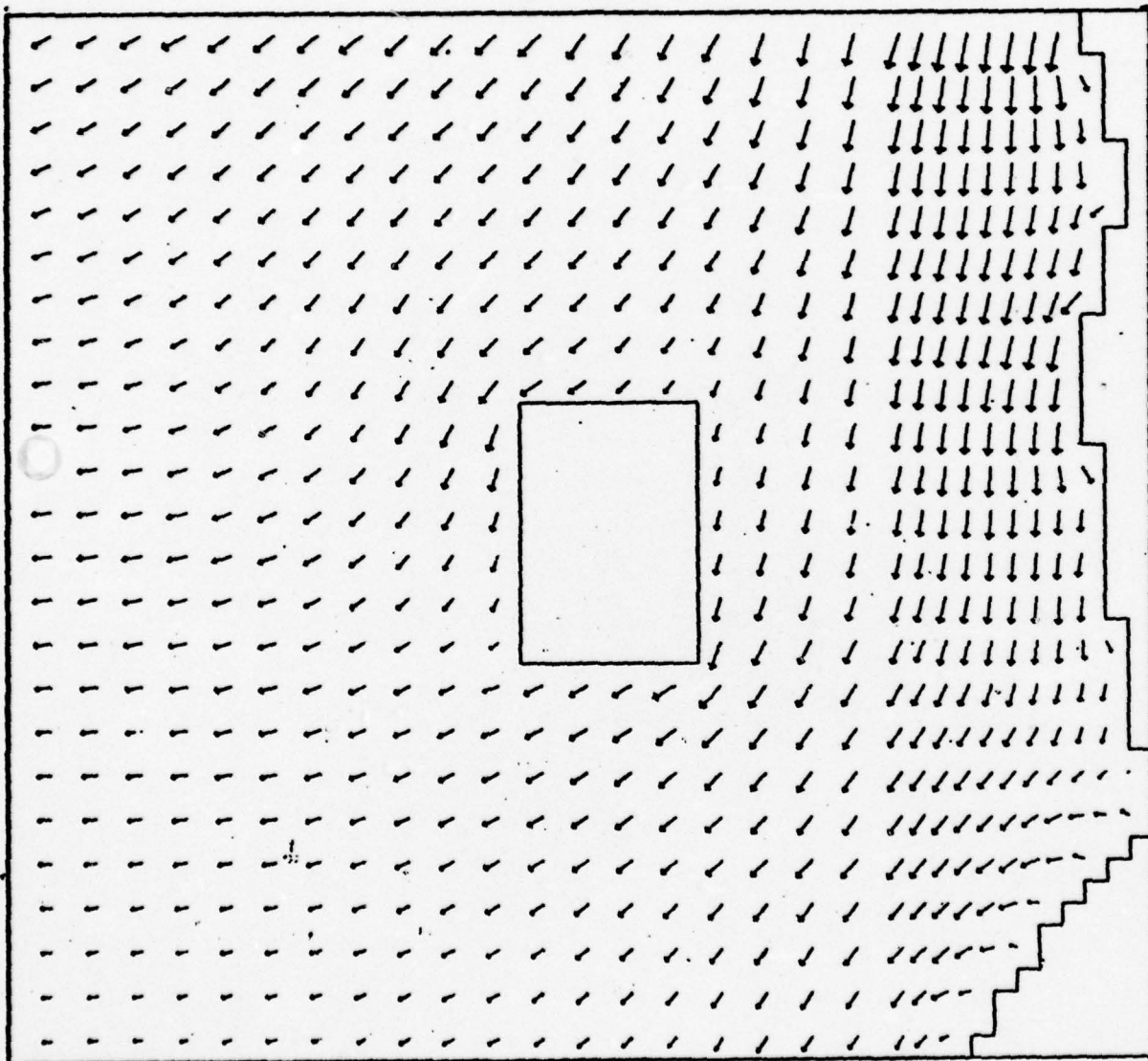


17 MPH.MNE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 10.0 FT

1.0

VECTOR LENGTH = 1 FOOT/SEC = —

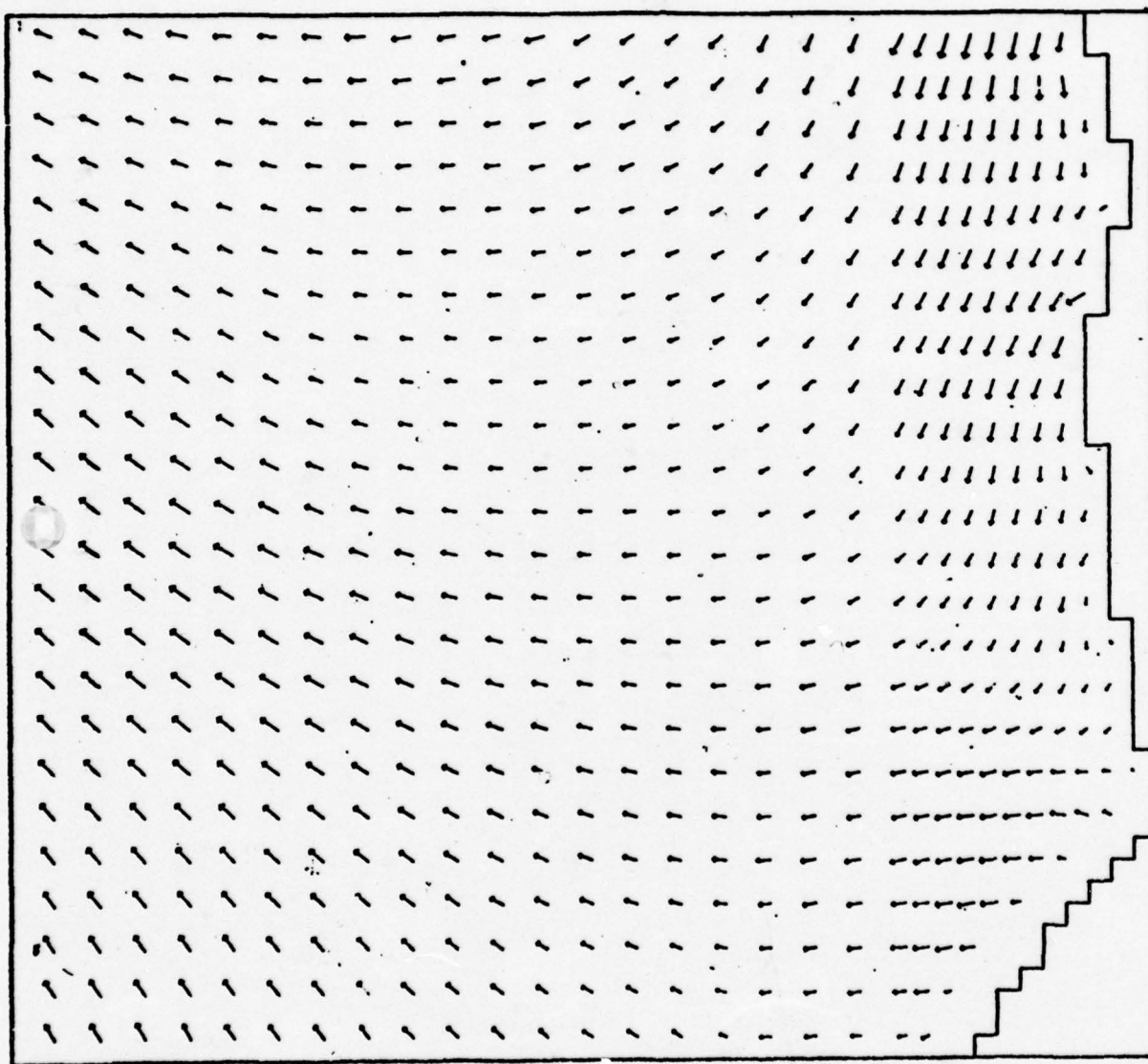


17 MPH.NNE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 15.0 FT

1.0

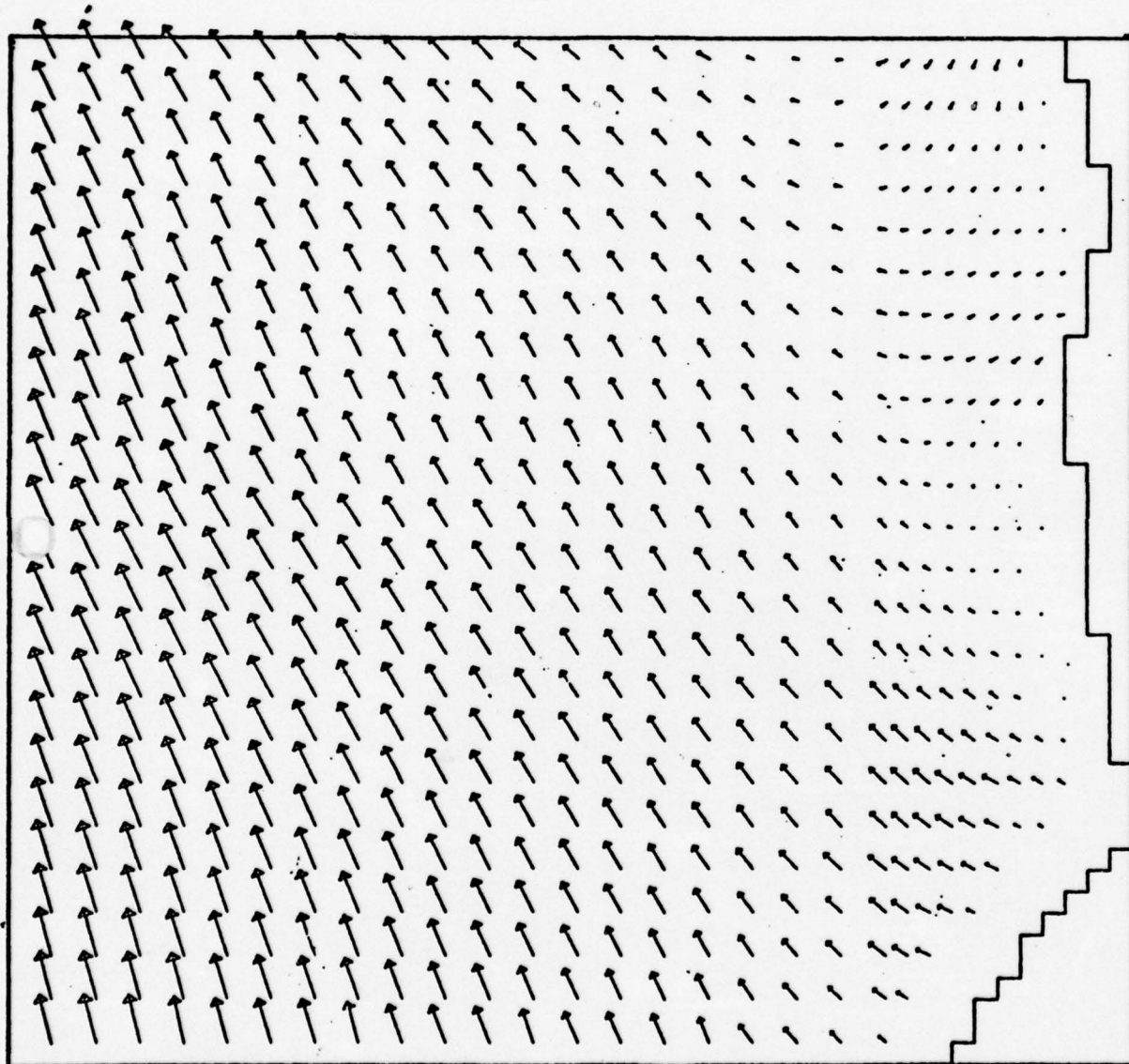
VECTOR LENGTH = 1 FOOT/SEC =



17 MPH·NNE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 20.0 FT

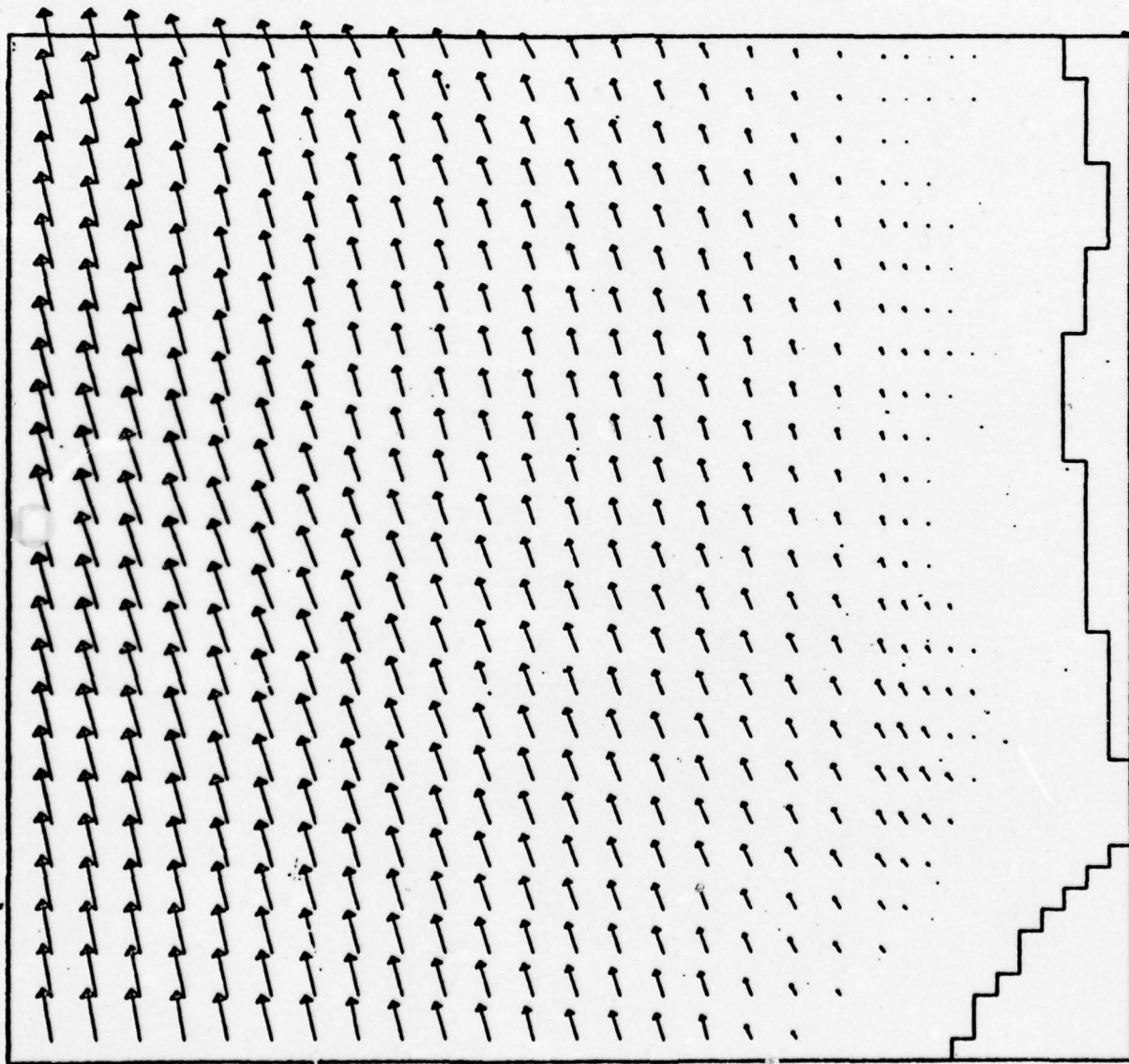
VECTOR LENGTH = 1 FOOT/SEC = 1.0



17 MPH.NNE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 30.0 FT

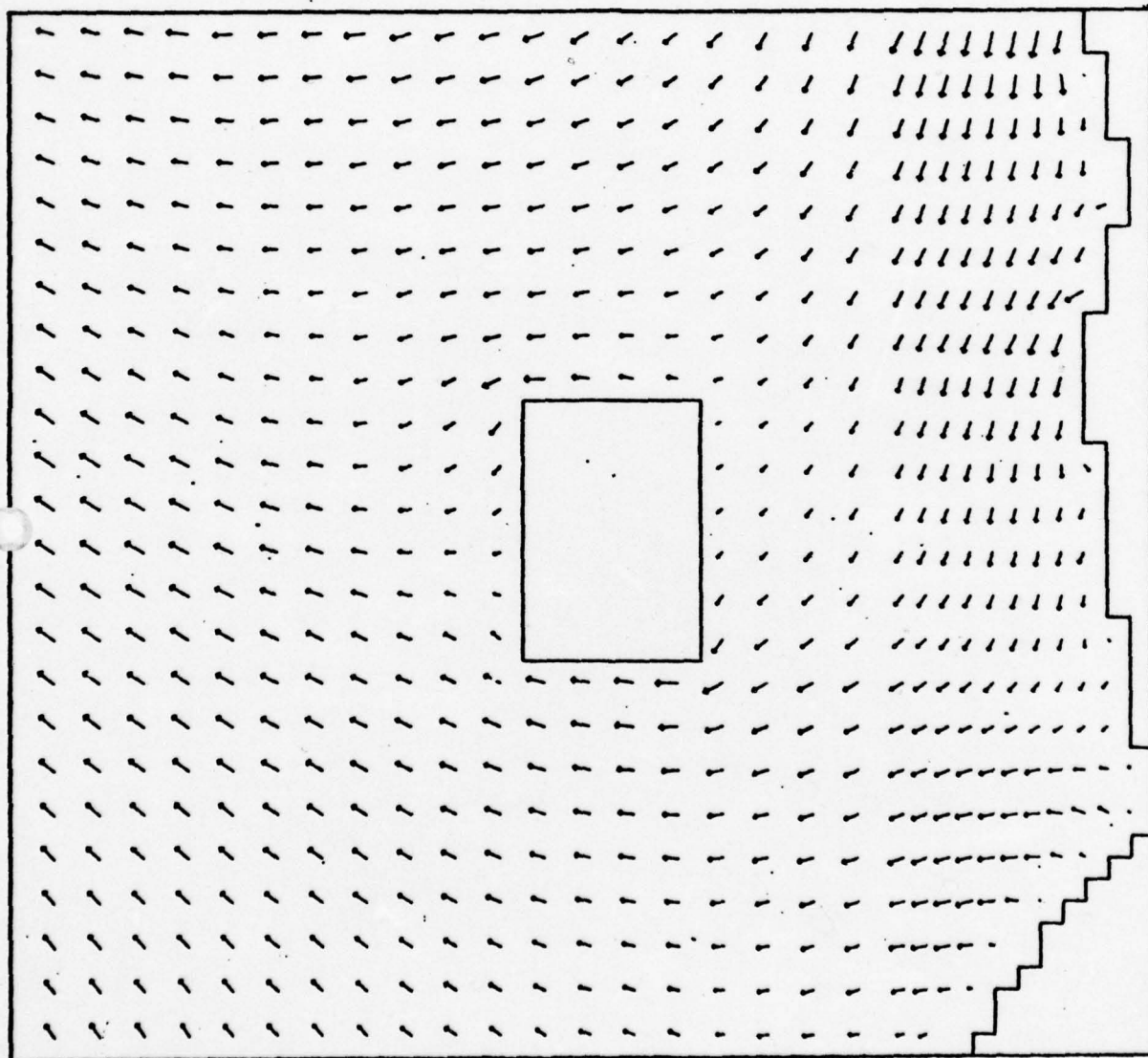
VECTOR LENGTH = 1 FOOT/SEC = _____ 1.0



17 MPH.NNE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 40.0 FT

VECTOR LENGTH = 1 FOOT/SEC = _____ 1.0

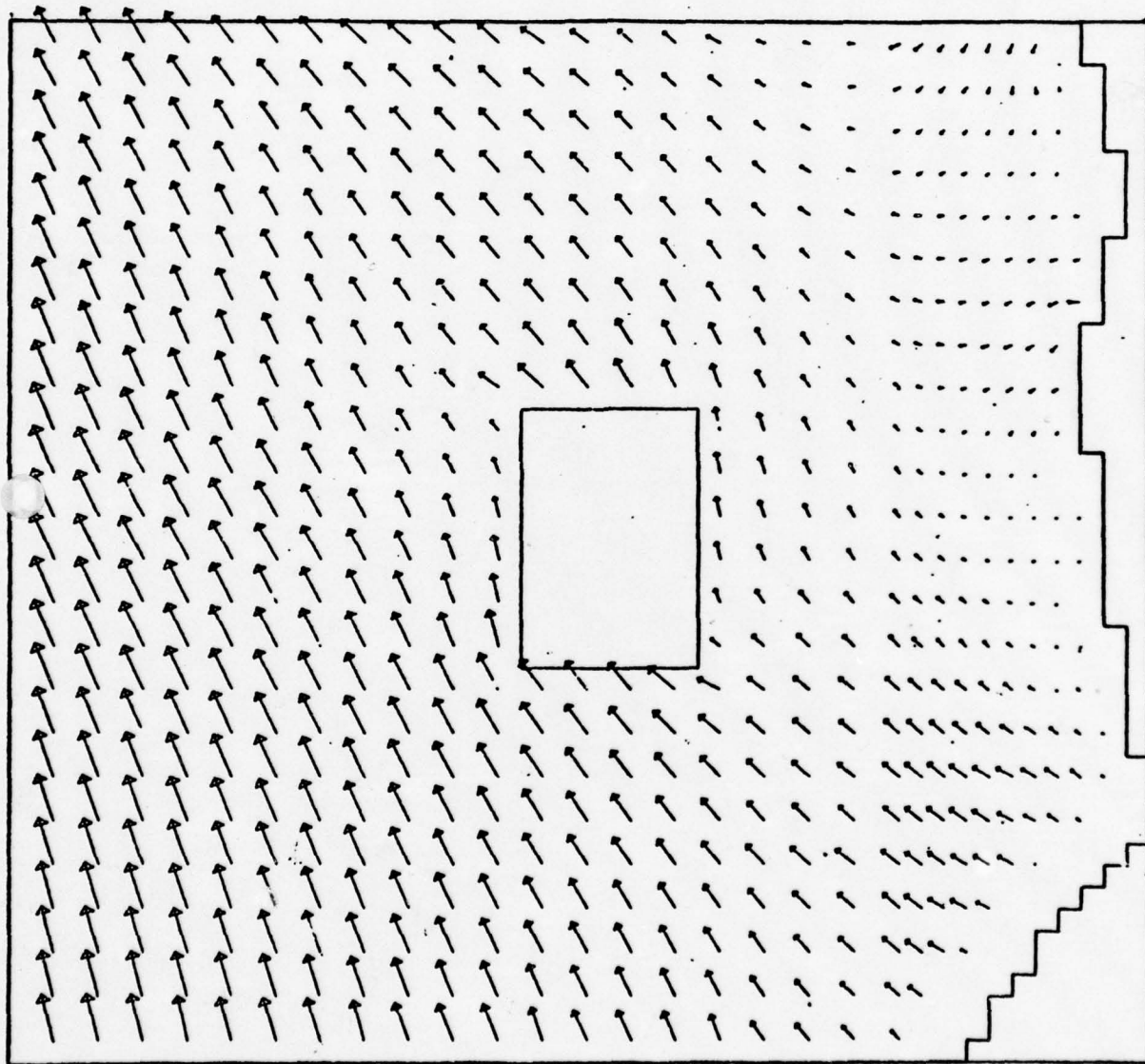


17 MPH.NNE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 20.0 FT

1.0

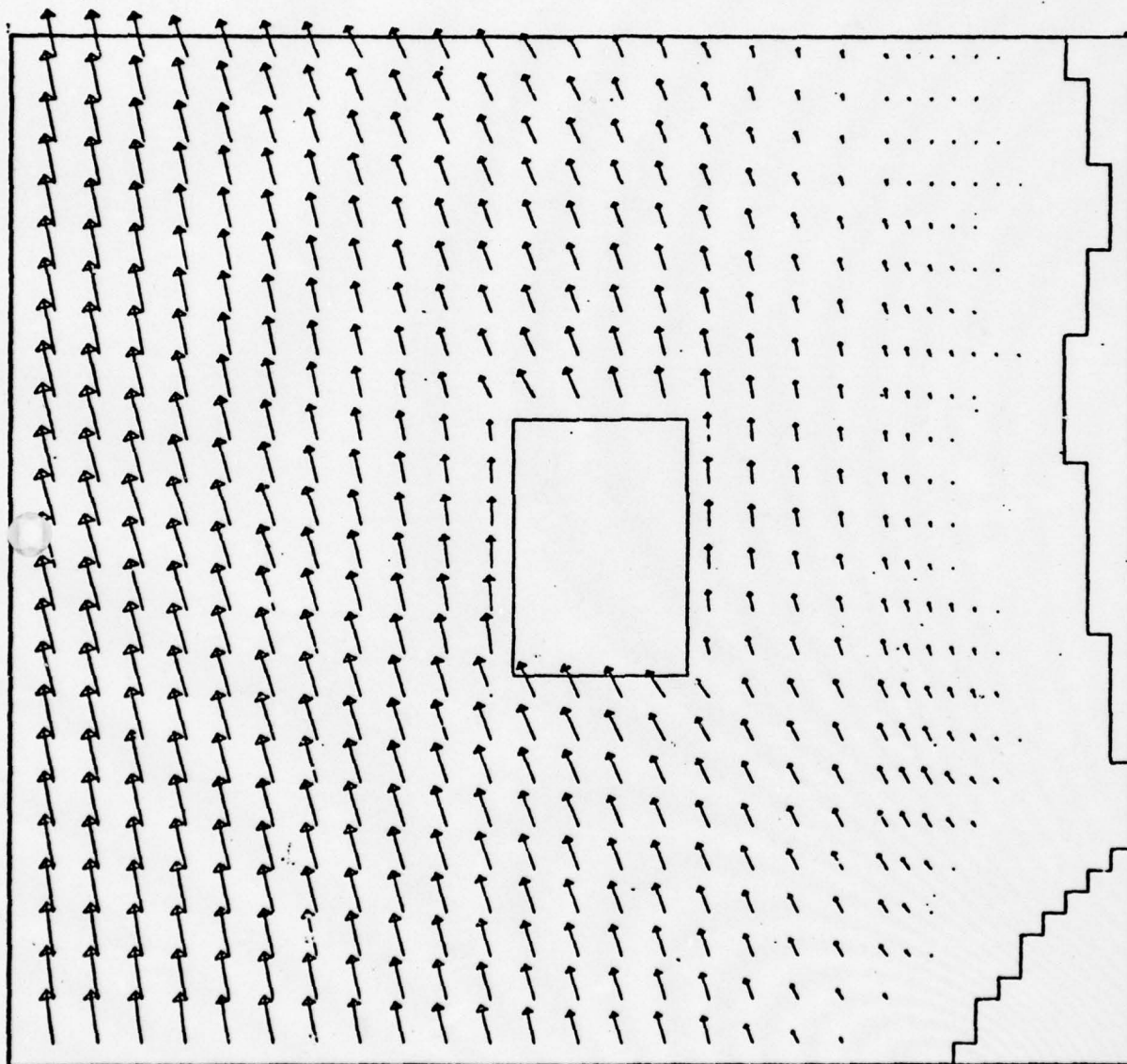
VECTOR LENGTH = 1 FOOT/SEC = _____



17 MPH, NNE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 30.0 FT

VECTOR LENGTH = 1 FOOT/SEC = 1.0



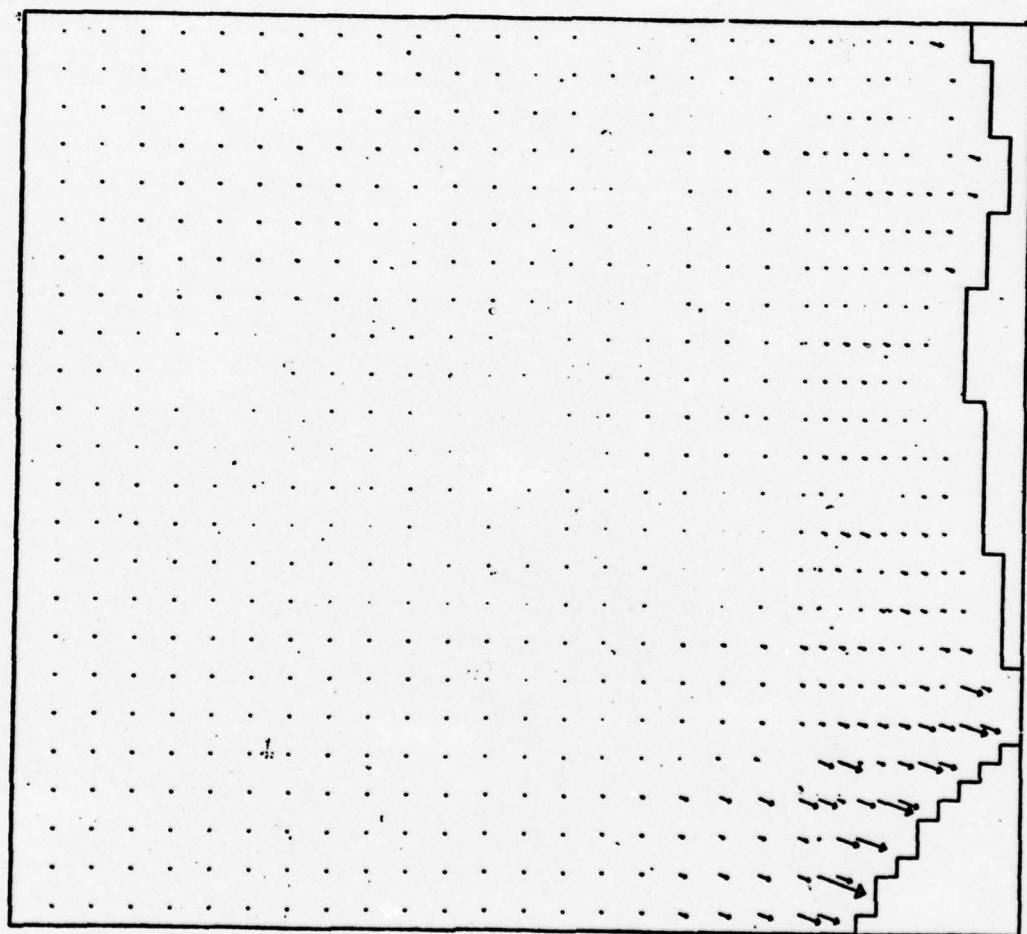
17 MPH.NNE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 40.0 FT

VECTOR LENGTH = 1 FOOT/SEC = 1.0



VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF 10.0 FT 17 MPH.MNE
VECTOR LENGTH = 1 FOOT/SEC = _____ 500.0



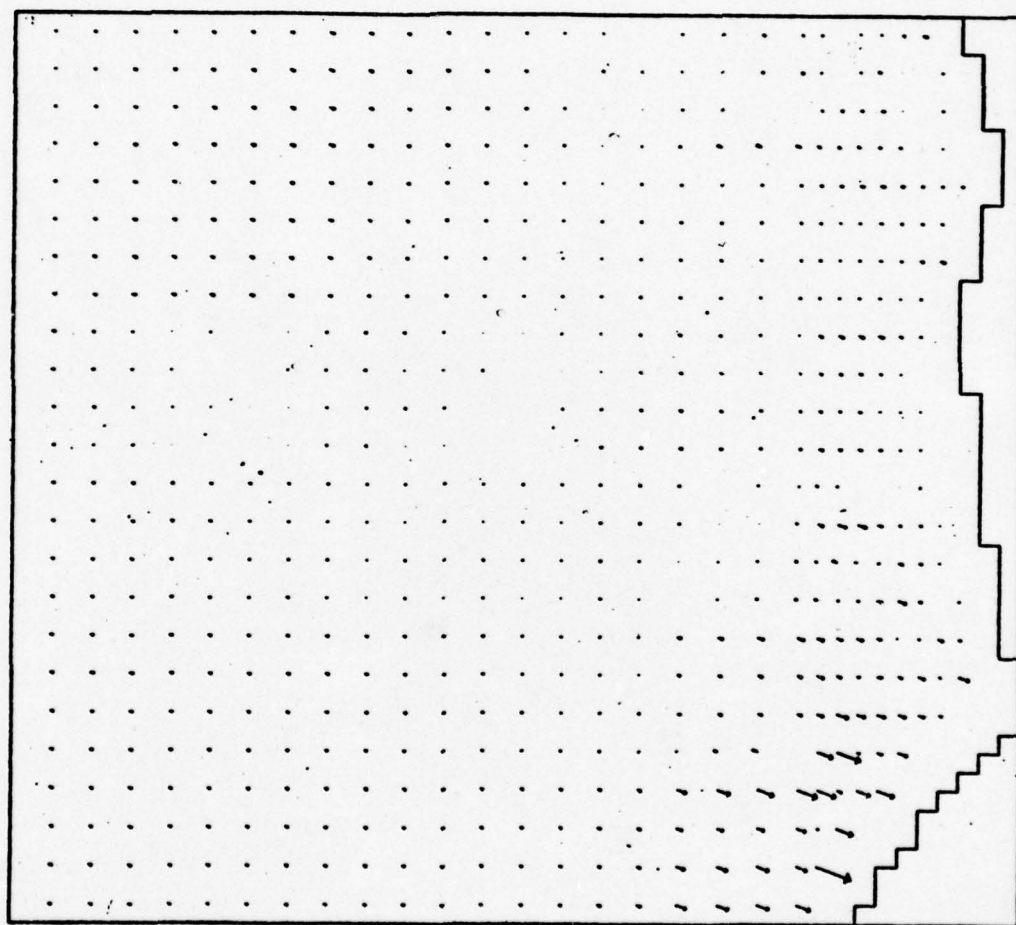
17 MPH, NNE

20.0 FT

500.0

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

VECTOR LENGTH = 1 FOOT/SEC =



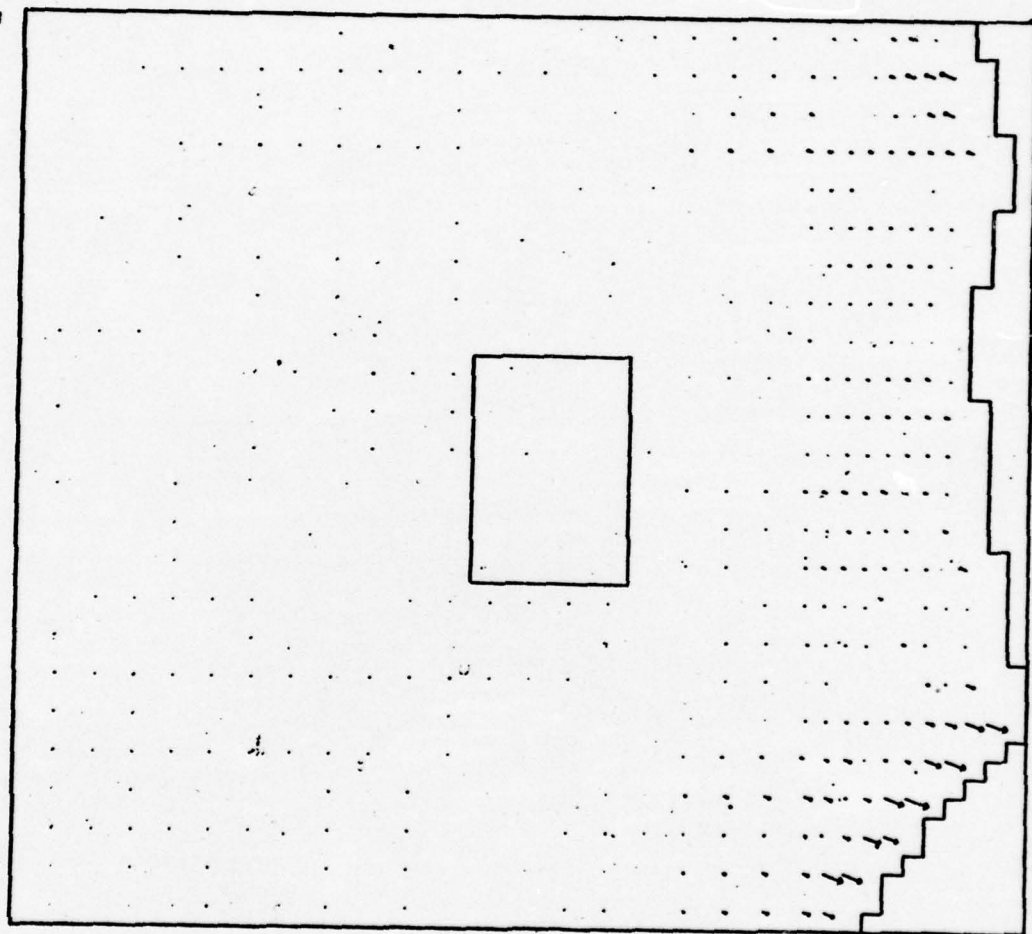
17 MPH.NNE

30.0 FT

500.0

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

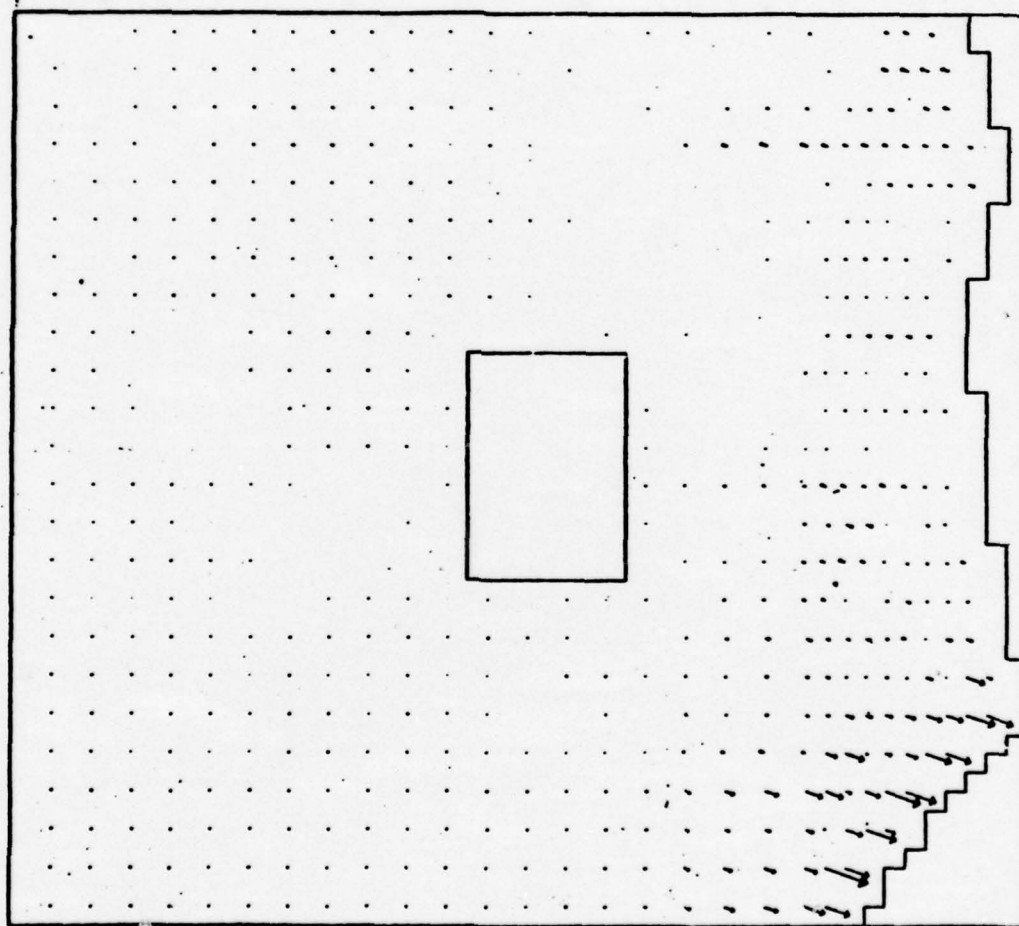
VECTOR LENGTH = 1 FOOT/SEC =



17 MPH.NNE

10.0 FT
500.0

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF
VECTOR LENGTH = 1 FOOT/SEC =



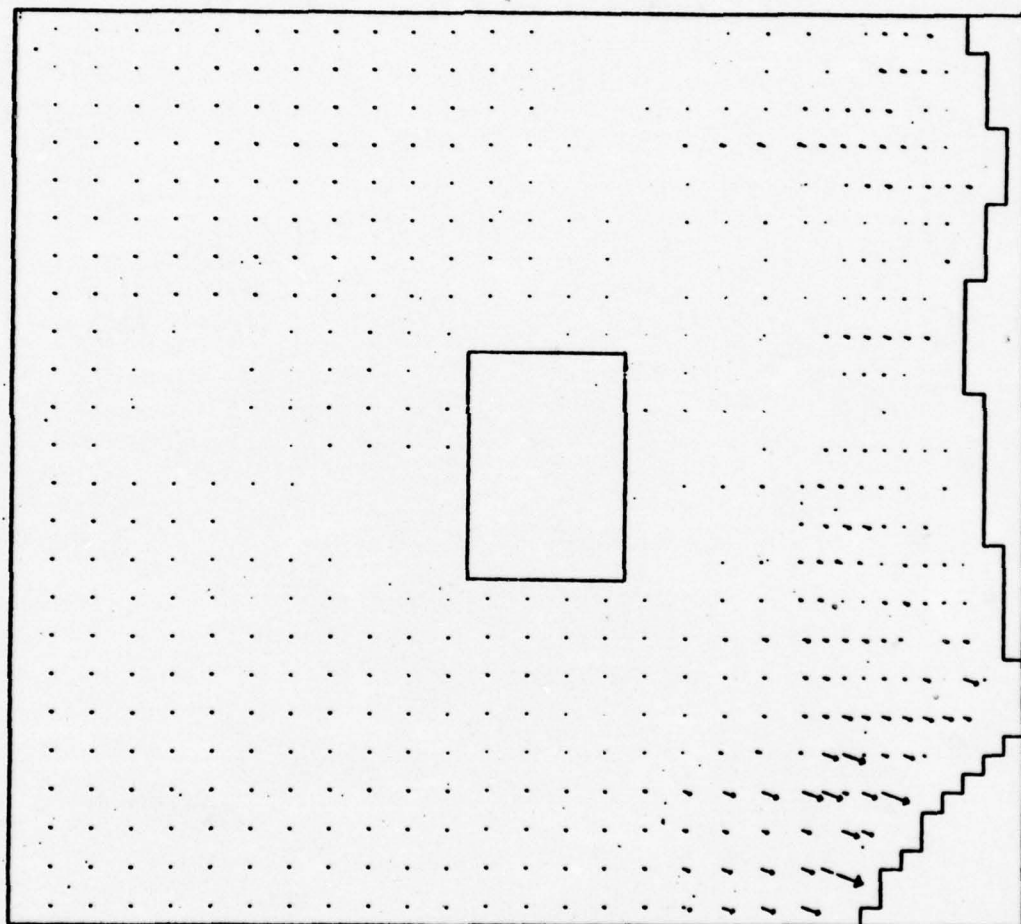
17 MPH (NNE)

20.0 FT

500.0

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

VECTOR LENGTH = 1 FOOT/SEC =



17 MPH, NNE

30.0 FT

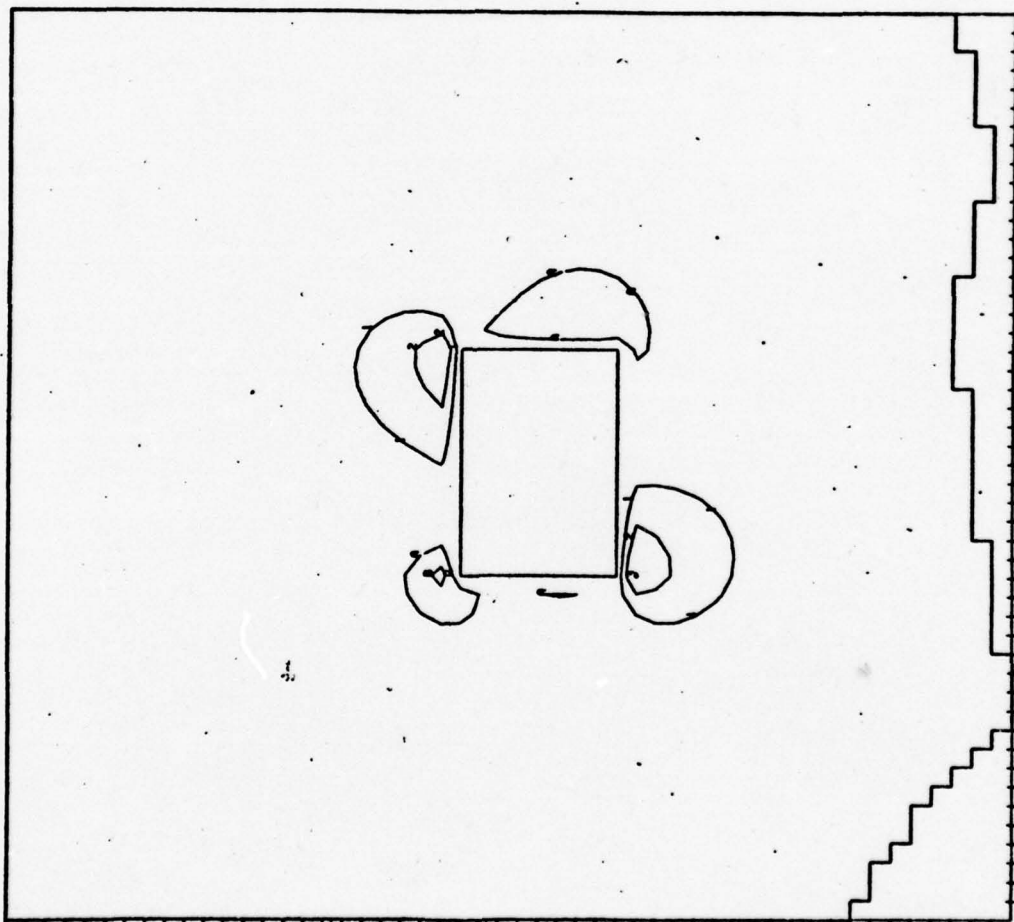
500.0

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

VECTOR LENGTH = 1 FOOT/SEC =

SYMBOLS 1 2 3 4 5 6 7 8 9 A B C D E F G H I

CONTOUR LEVELS
 0.050
 0.100
 0.200
 0.400
 0.600
 0.800
 1.000
 1.500
 2.000
 -0.050
 -0.100
 -0.200
 -0.400
 -0.600
 -0.800
 -1.000
 -1.500
 -2.000



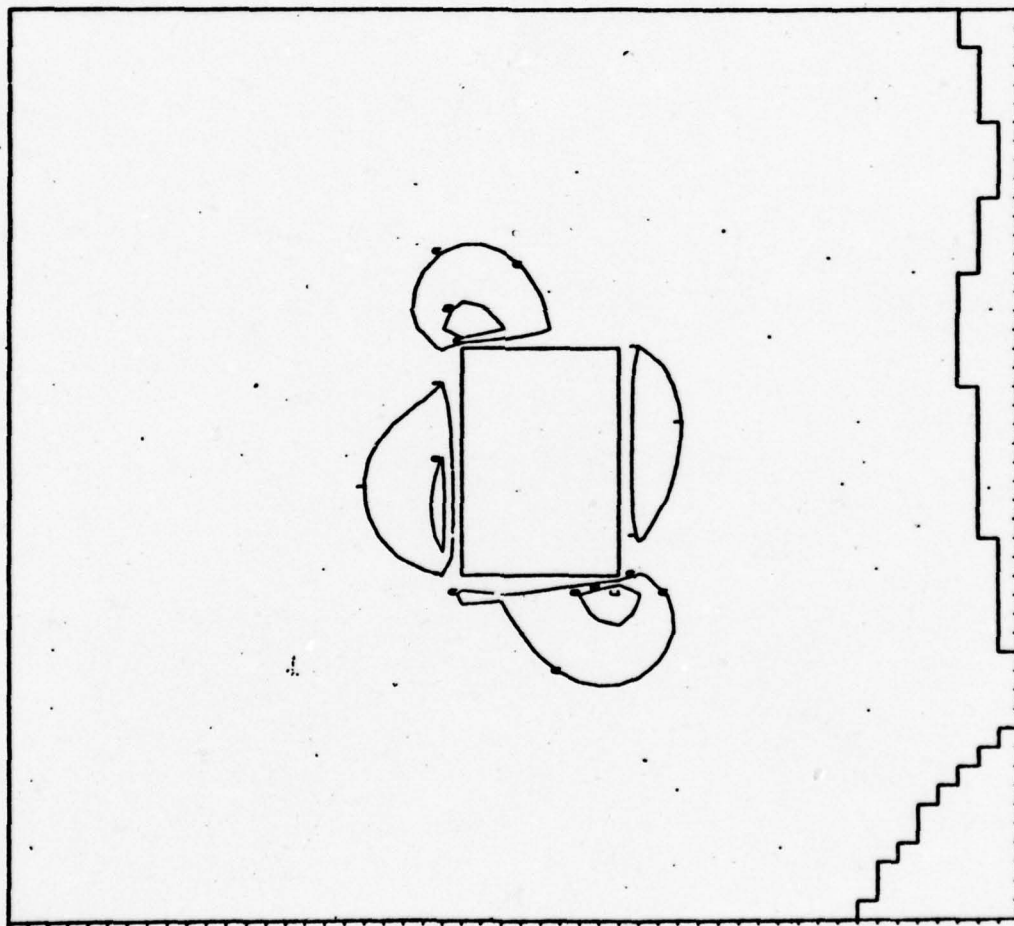
CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

U.D=0. H=17NNE

SYMBOLS

CONTOUR LEVELS

0.050
0.100
0.200
0.400
0.600
1.000
1.500
2.000
-0.050
-0.100
-0.200
-0.400
-0.600
-1.000
-1.500
-2.000

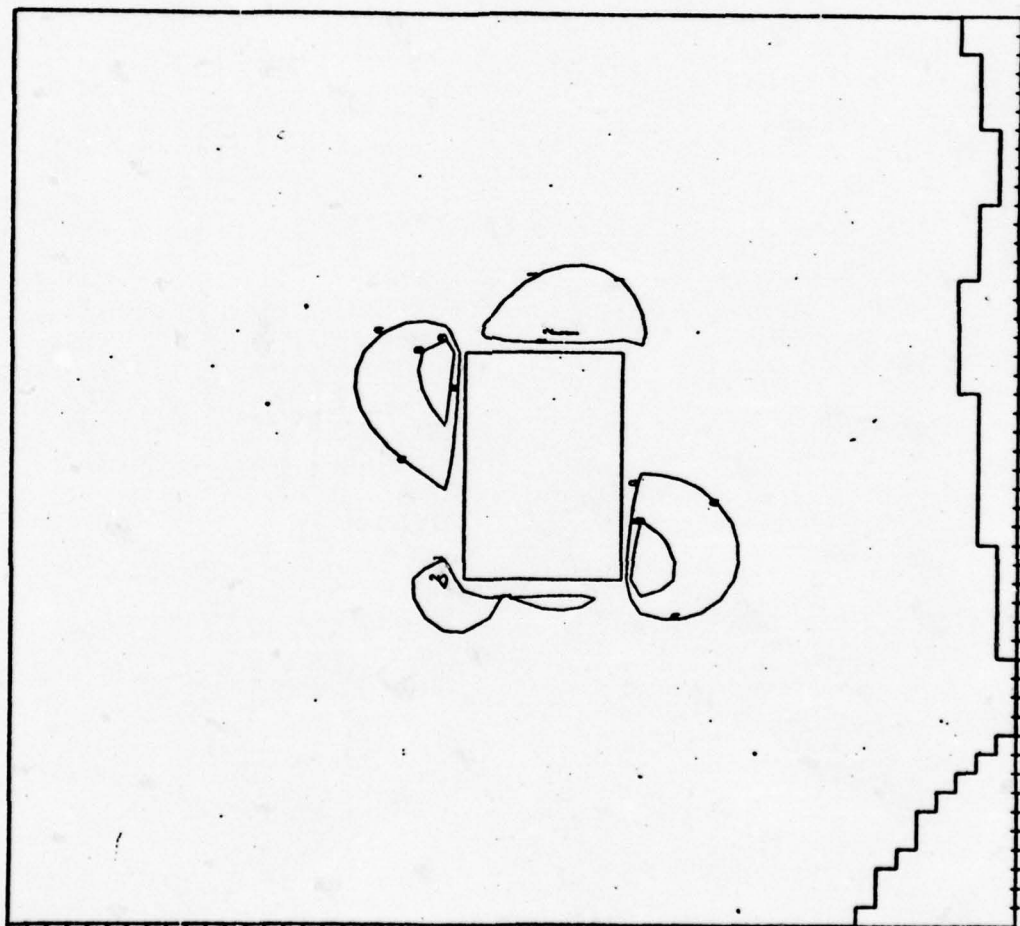


CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

V.D.O.N=17NNE

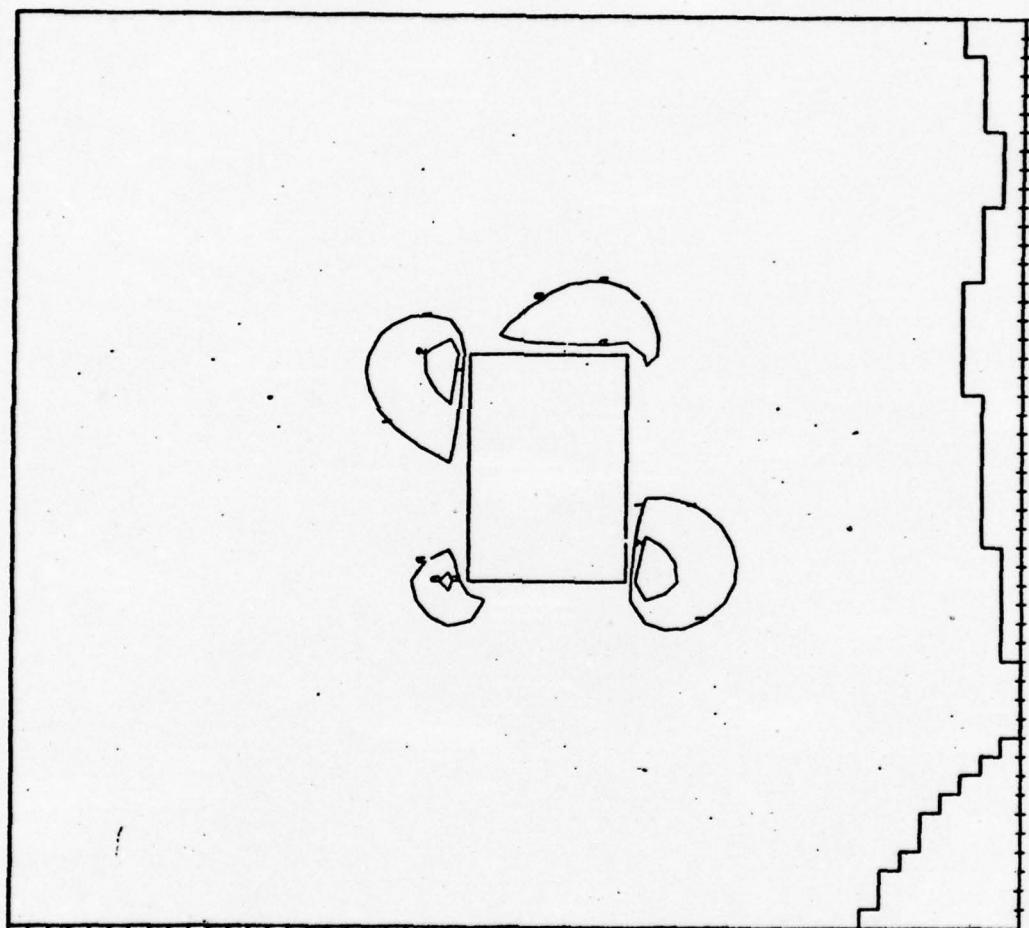
SYMBOLS
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 21
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 81
 82
 83
 84
 85
 86
 87
 88
 89
 90
 91
 92
 93
 94
 95
 96
 97
 98
 99
 100

CONTOUR LEVELS
 0.050
 0.100
 0.200
 0.400
 0.600
 0.800
 1.000
 1.500
 2.000
 -0.050
 -0.100
 -0.200
 -0.400
 -0.600
 -0.800
 -1.000
 -1.500
 -2.000



CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

M.D=0.W=17NNE



SYMBOLS
- - - - -

CONTOUR LEVELS
0.050
0.100
0.200
0.400
0.600
0.800
1.000
1.200
1.400
1.600
1.800
2.000
-0.050
-0.100
-0.200
-0.400
-0.600
-0.800
-1.000
-1.200
-1.400
-1.600
-1.800
-2.000

CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

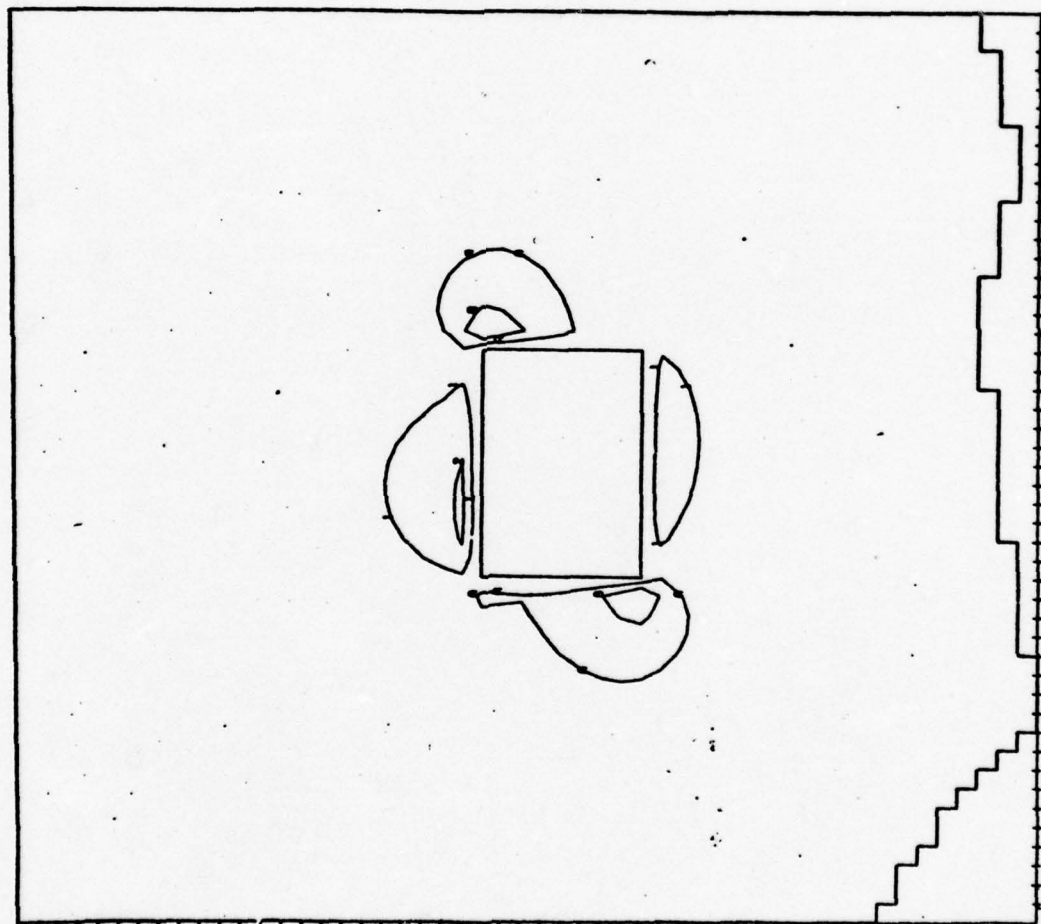
U.D=15.M=1NNE

SYMBOLS

1 2 3 4 5 6 7 8 9 0 A B C D E F G H I

CONTOUR LEVELS

0.050
0.100
0.200
0.400
0.600
0.800
1.000
1.500
2.000
-0.050
-0.100
-0.200
-0.400
-0.600
-0.800
-1.000
-1.500
-2.000

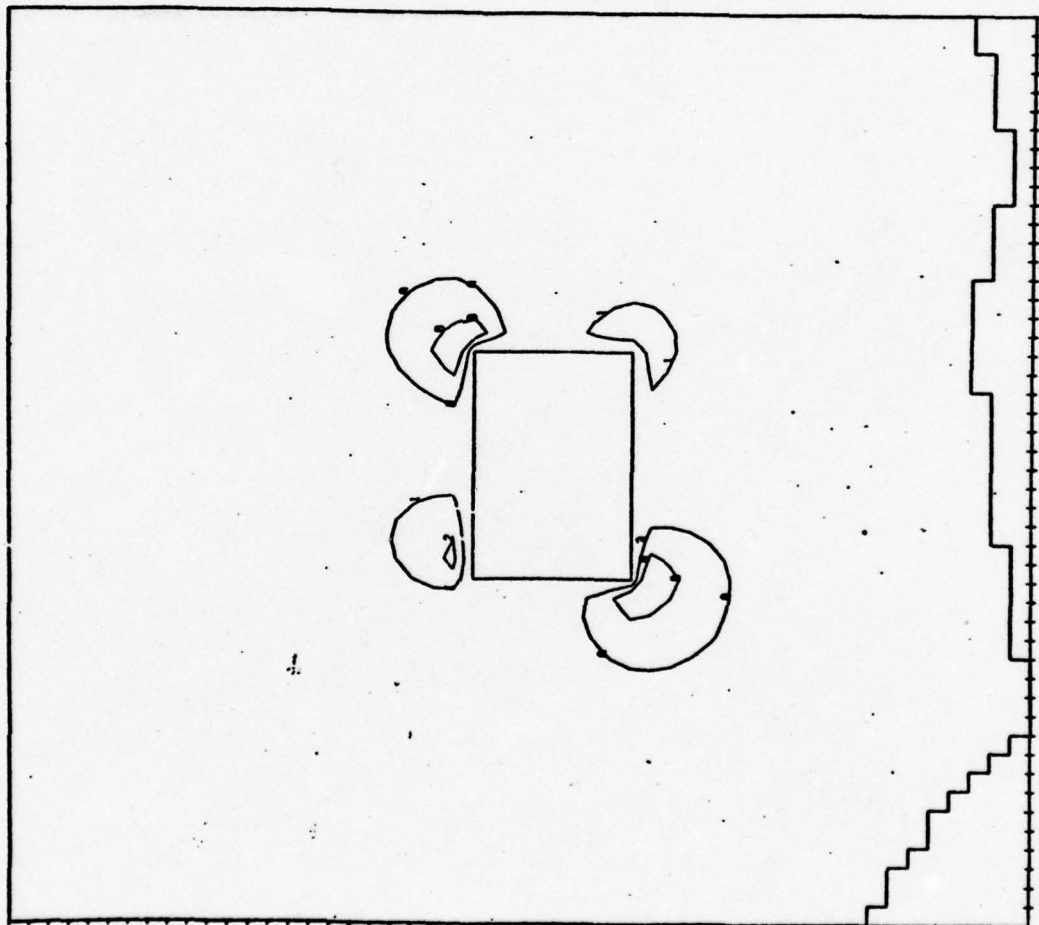


CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

V.D=15.W=17NNE

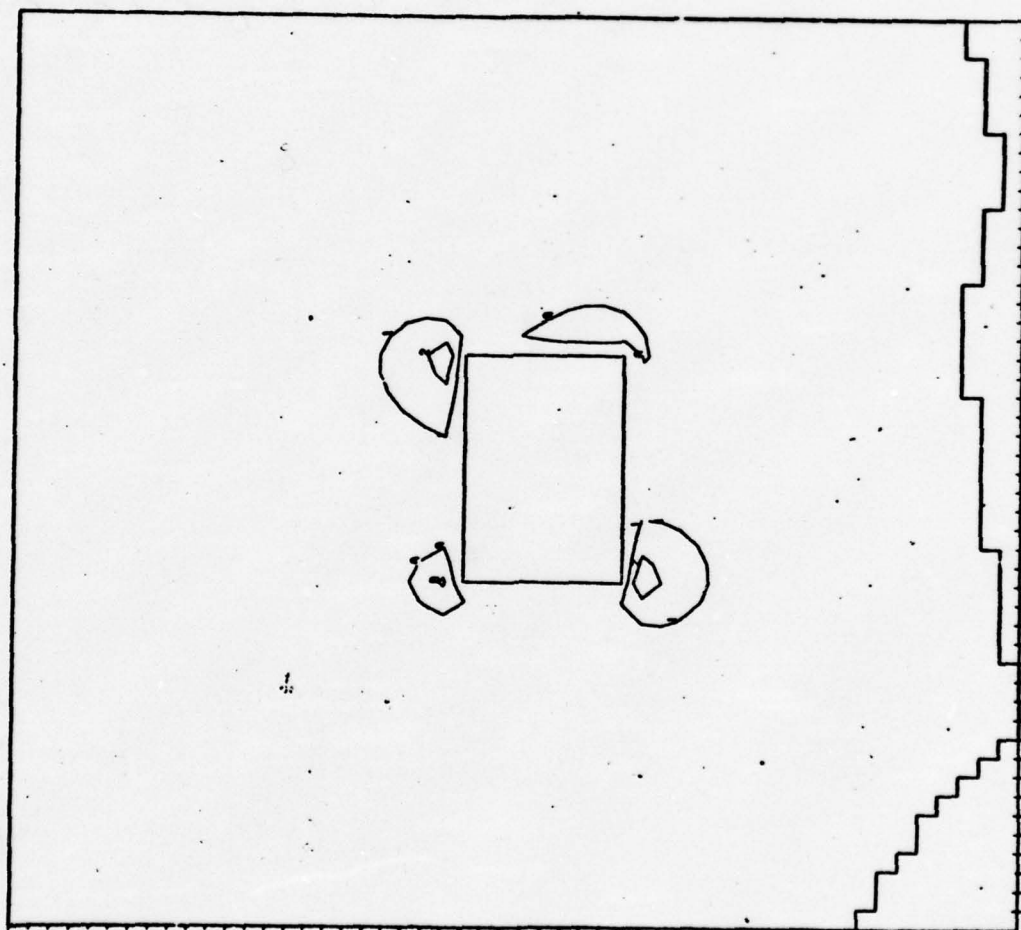
SYMBOLS
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

CONTOUR LEVELS
 0.050
 0.100
 0.200
 0.400
 0.600
 0.800
 1.000
 1.200
 1.400
 1.600
 1.800
 2.000
 -0.050
 -0.100
 -0.200
 -0.400
 -0.600
 -0.800
 -1.000
 -1.200
 -1.400
 -1.600
 -1.800
 -2.000



CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

M.D=15.H=17NNE



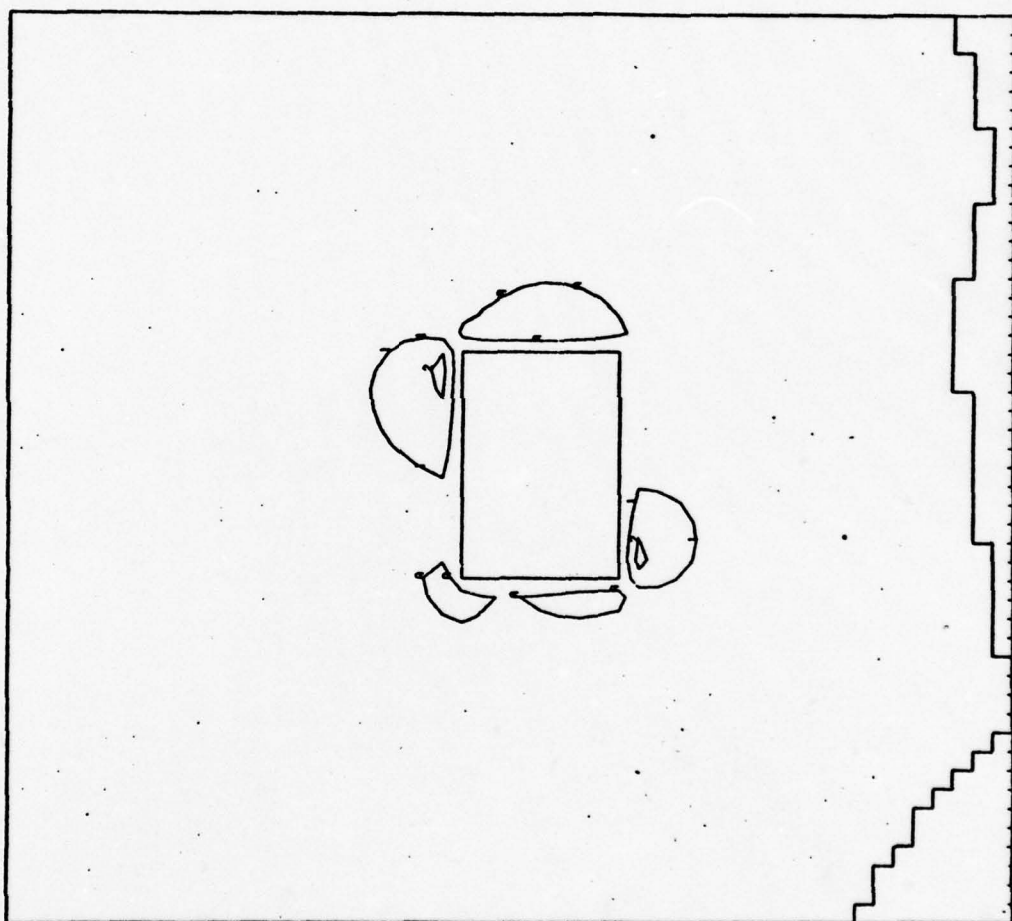
U.D=30.W=17NNE

SYMBOLS	CONTOUR LEVELS
1	-2.000
2	-1.500
3	-1.000
4	-0.800
5	-0.600
6	-0.400
7	-0.200
8	0.000
9	0.200
0	0.400
1	0.600
2	0.800
3	1.000
4	1.200
5	1.400
6	1.600
7	1.800
8	2.000

SYMBOLS CONTOUR LEVELS

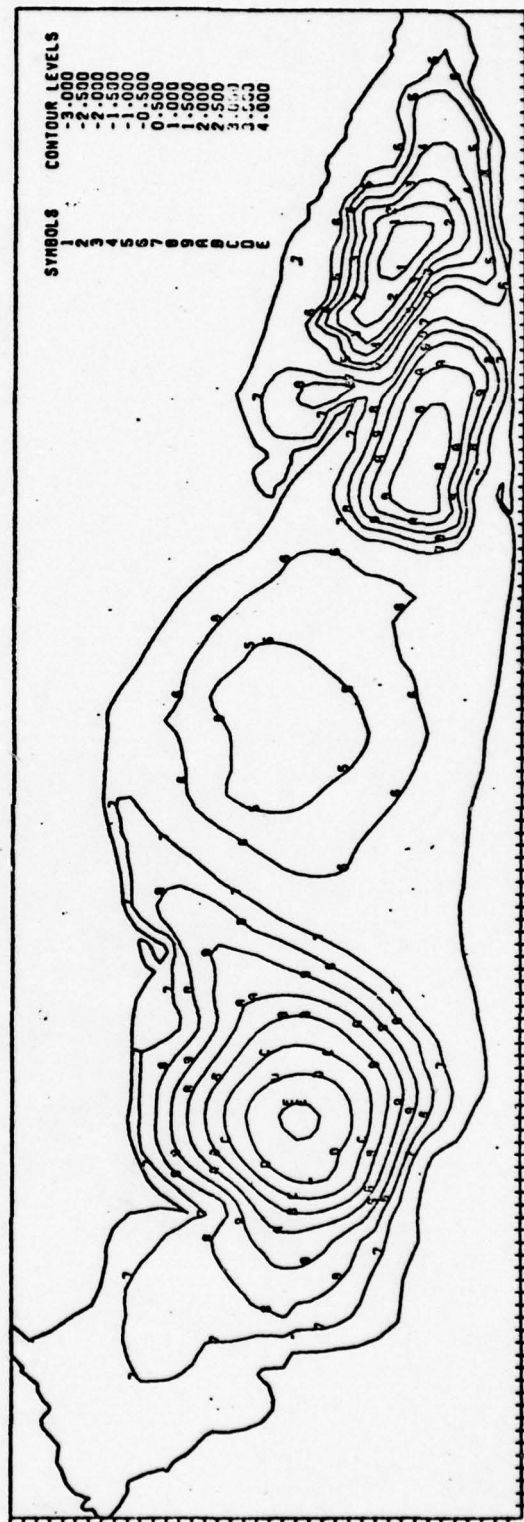
1	0.050
2	0.100
3	0.200
4	0.400
5	0.600
6	0.800
7	1.000
8	1.200
9	1.400
10	1.600
11	1.800
12	2.000
13	2.200
14	2.400
15	2.600
16	2.800
17	3.000
18	3.200
19	3.400
20	3.600
21	3.800
22	4.000
23	4.200
24	4.400
25	4.600
26	4.800
27	5.000
28	5.200
29	5.400
30	5.600
31	5.800
32	6.000
33	6.200
34	6.400
35	6.600
36	6.800
37	7.000
38	7.200
39	7.400
40	7.600
41	7.800
42	8.000
43	8.200
44	8.400
45	8.600
46	8.800
47	9.000
48	9.200
49	9.400
50	9.600
51	9.800
52	10.000
53	10.200
54	10.400
55	10.600
56	10.800
57	11.000
58	11.200
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91	17.800
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93	18.200
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518	103.200
519	103.400
520	103.600</

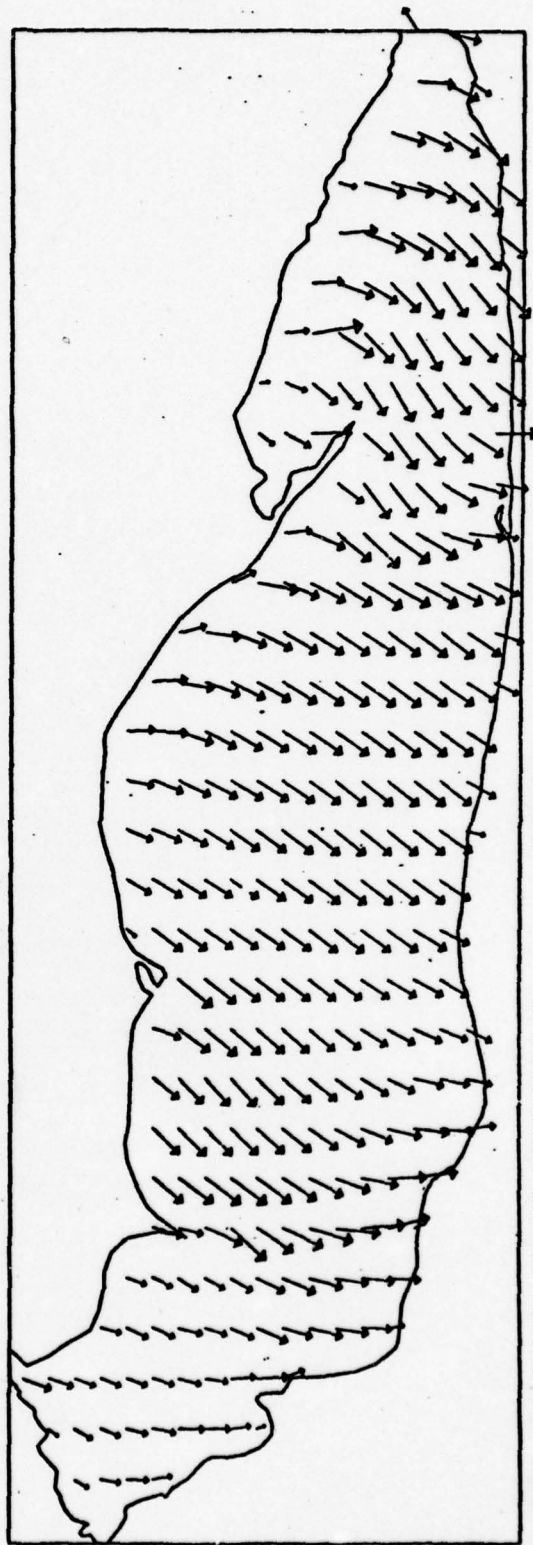
SYMBOLS	CONTOUR LEVELS
1	0.050
2	0.100
3	0.200
4	0.400
5	0.600
6	0.800
7	1.000
8	1.500
9	2.000
A	-0.050
B	-0.100
C	-0.200
D	-0.400
E	-0.600
F	-0.800
G	-1.000
H	-1.500
I	-2.000



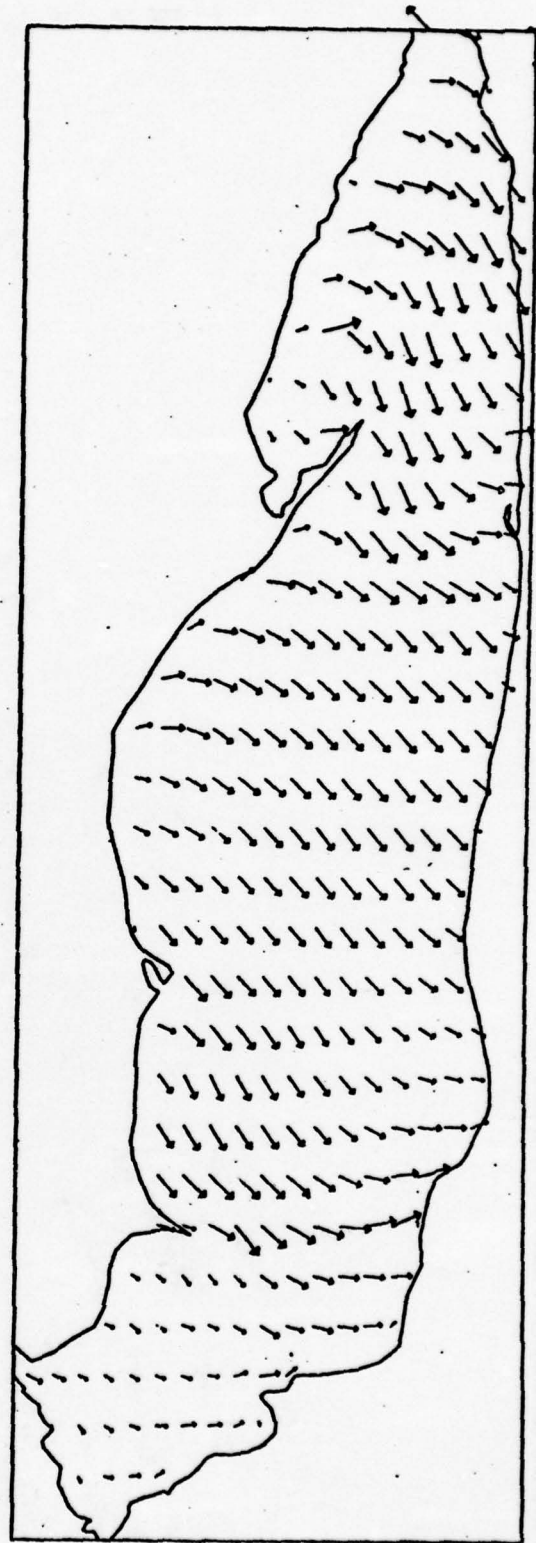
CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

M.D=30.W=17NNE





HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 0.0 FT
VECTOR LENGTH = 1 FOOT/SEC = — 17 MPH/NNH

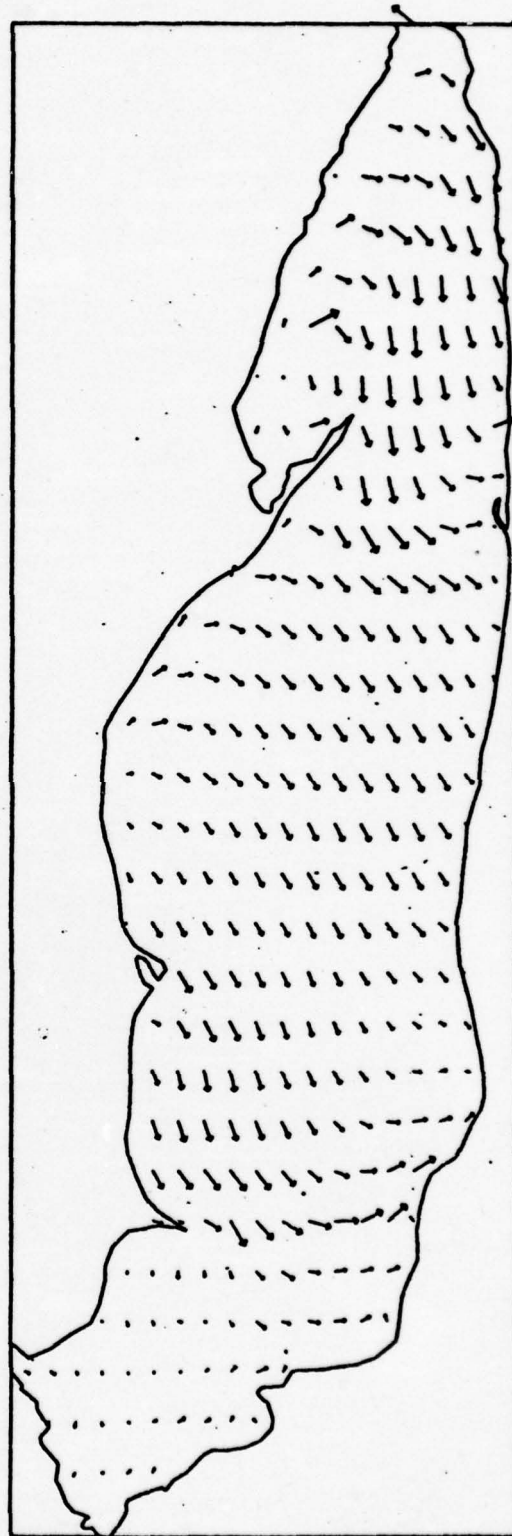


17 MPH, NNW

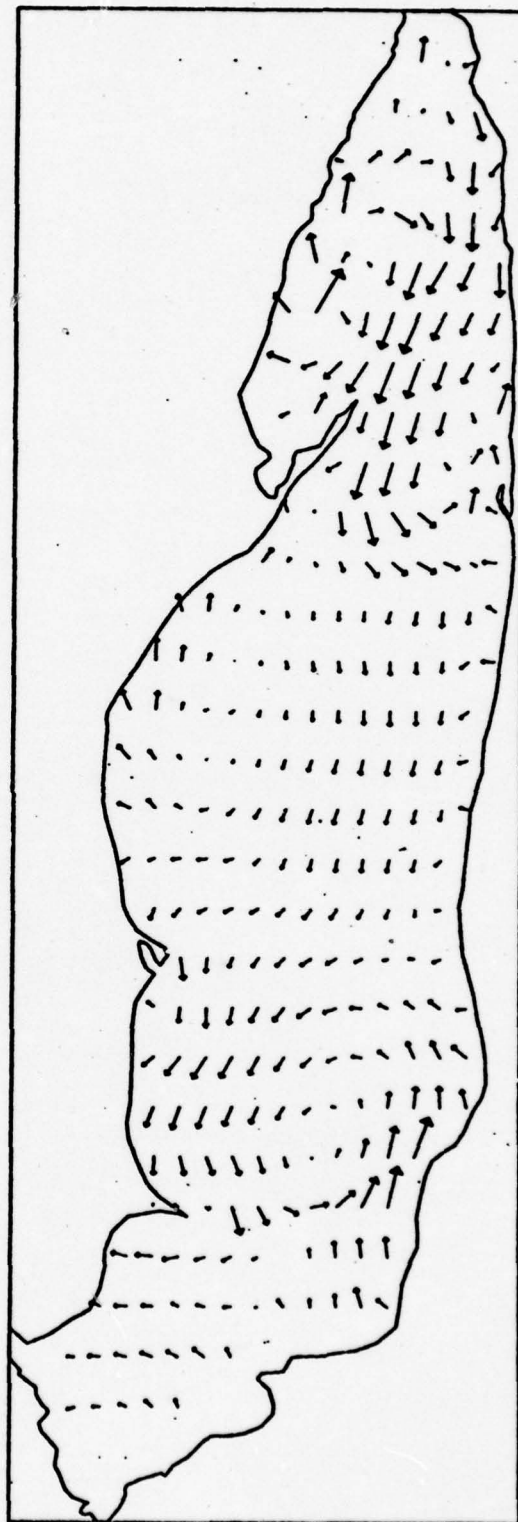
5.0 FT

1.0

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 5.0 FT
VECTOR LENGTH = 1 FOOT/SEC = —



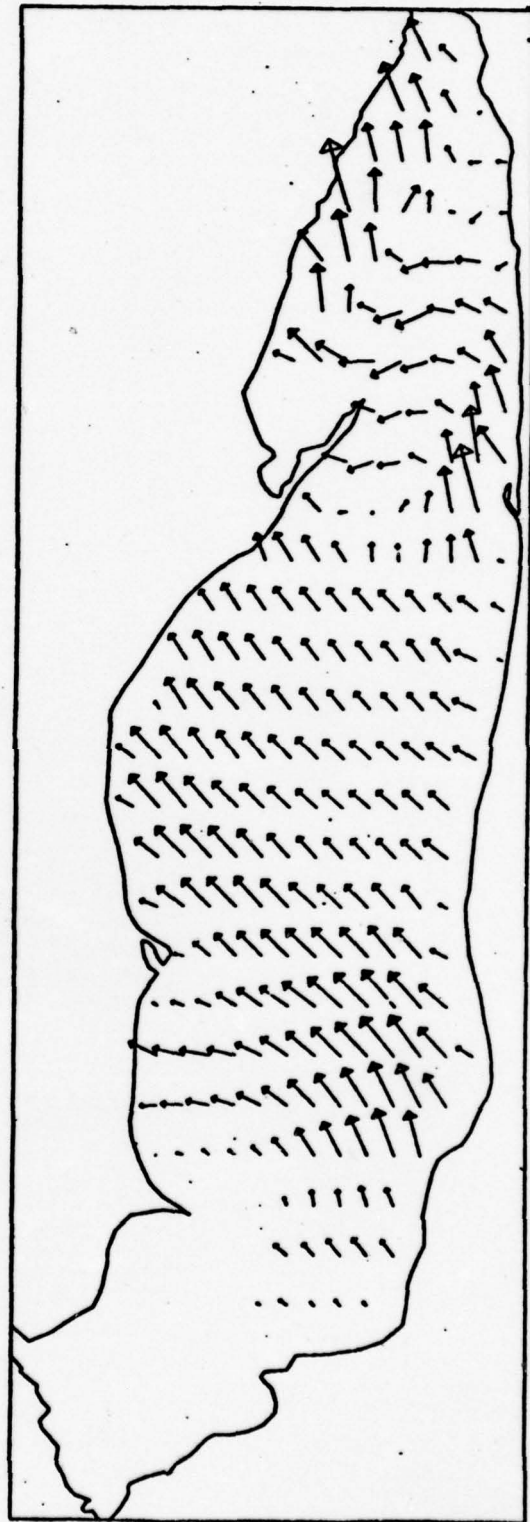
HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 10.0 FT
VECTOR LENGTH = 1 FOOT/SEC = — 17 MPH.NNN



17 MPH.MMM

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 20.0 FT

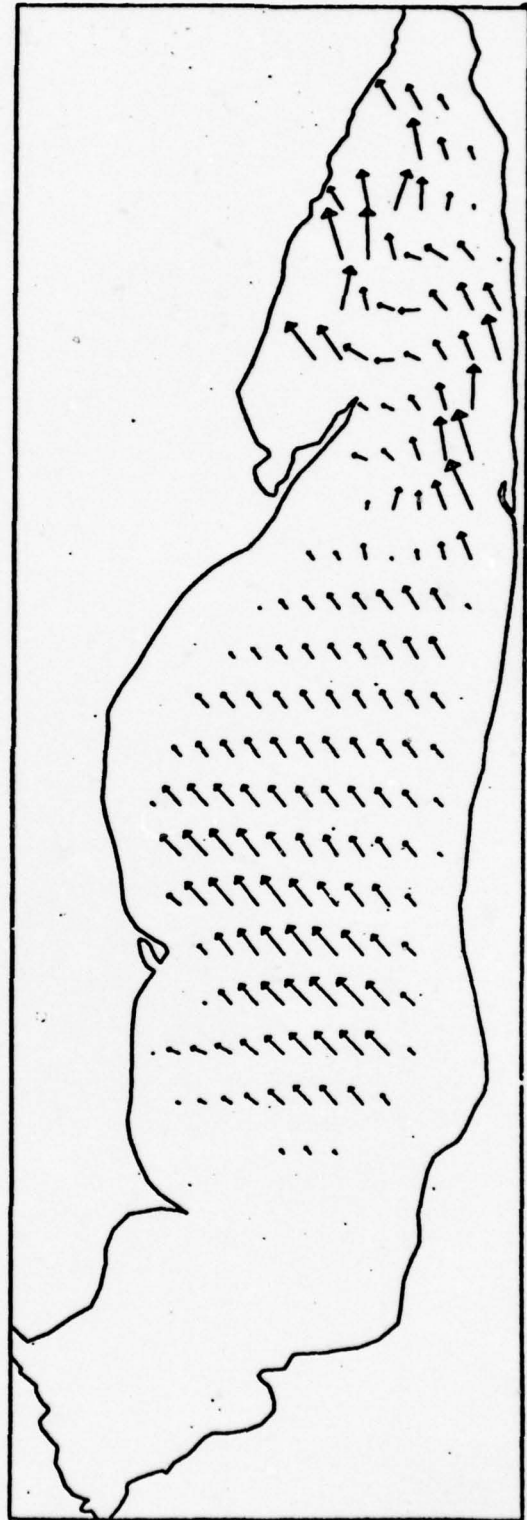
VECTOR LENGTH = 1 FOOT/SEC = 1.0



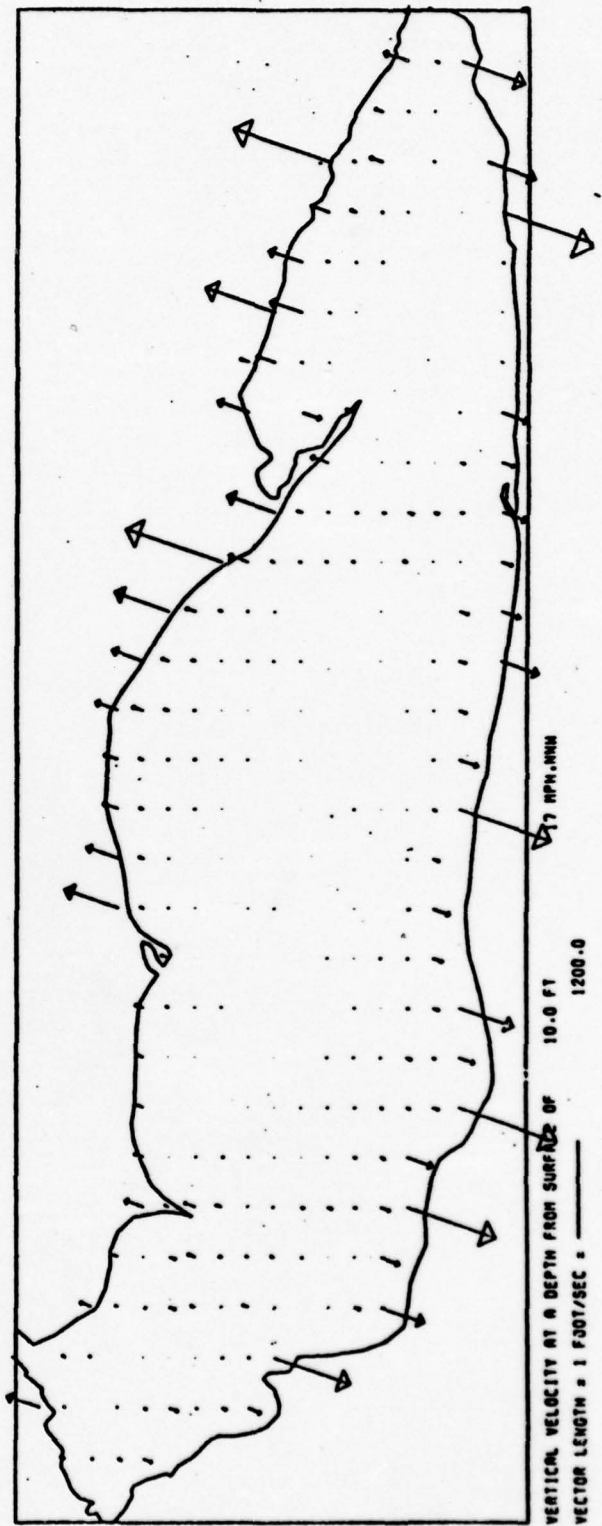
17 MPH. MIN

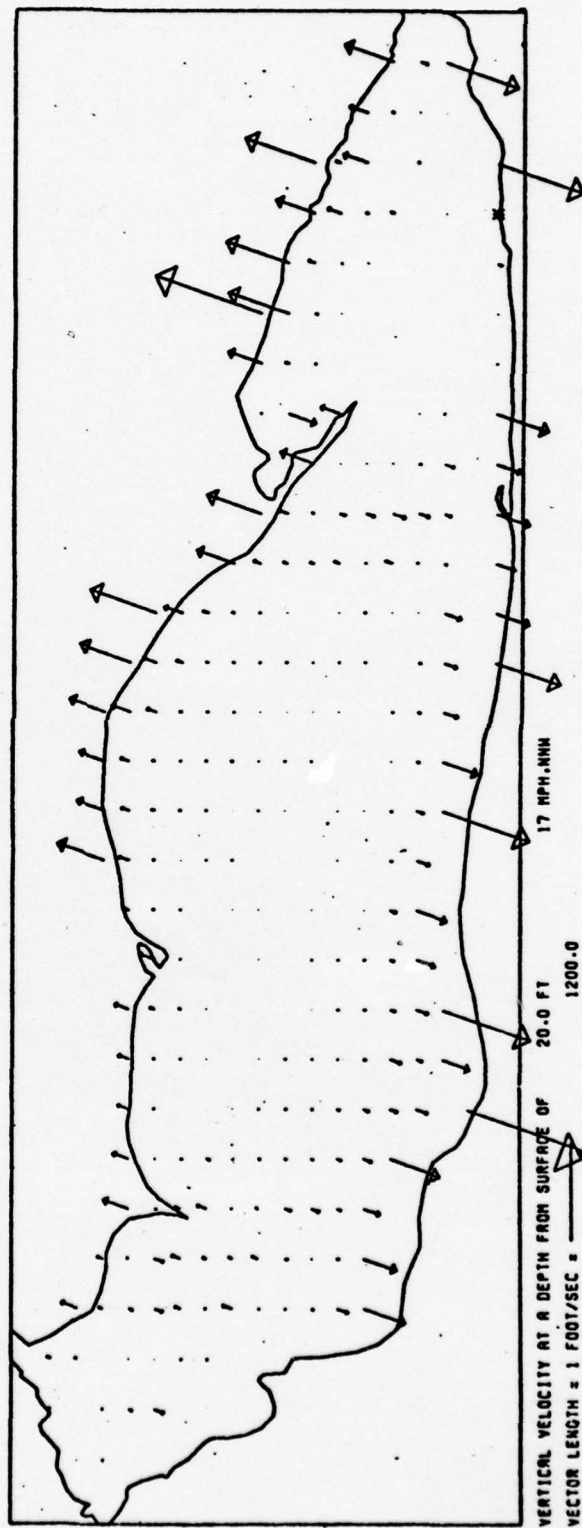
HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 40.0 FT

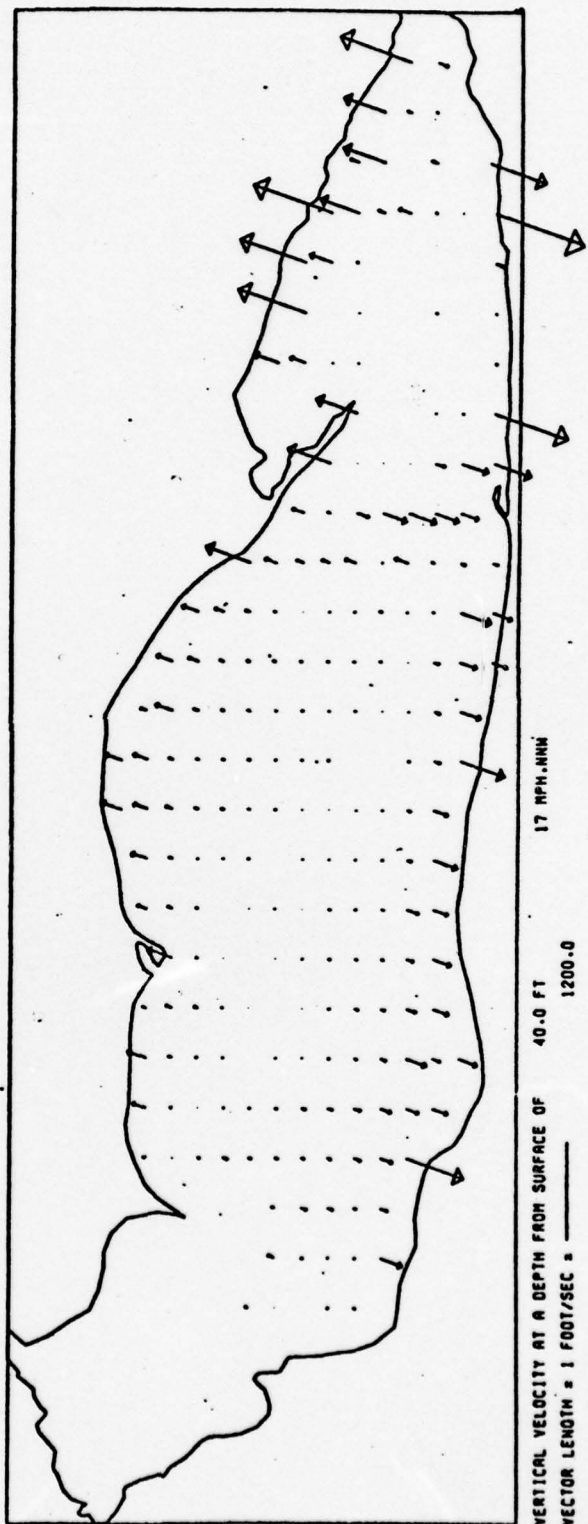
VECTOR LENGTH = 1 FOOT/SEC = _____ 1.0

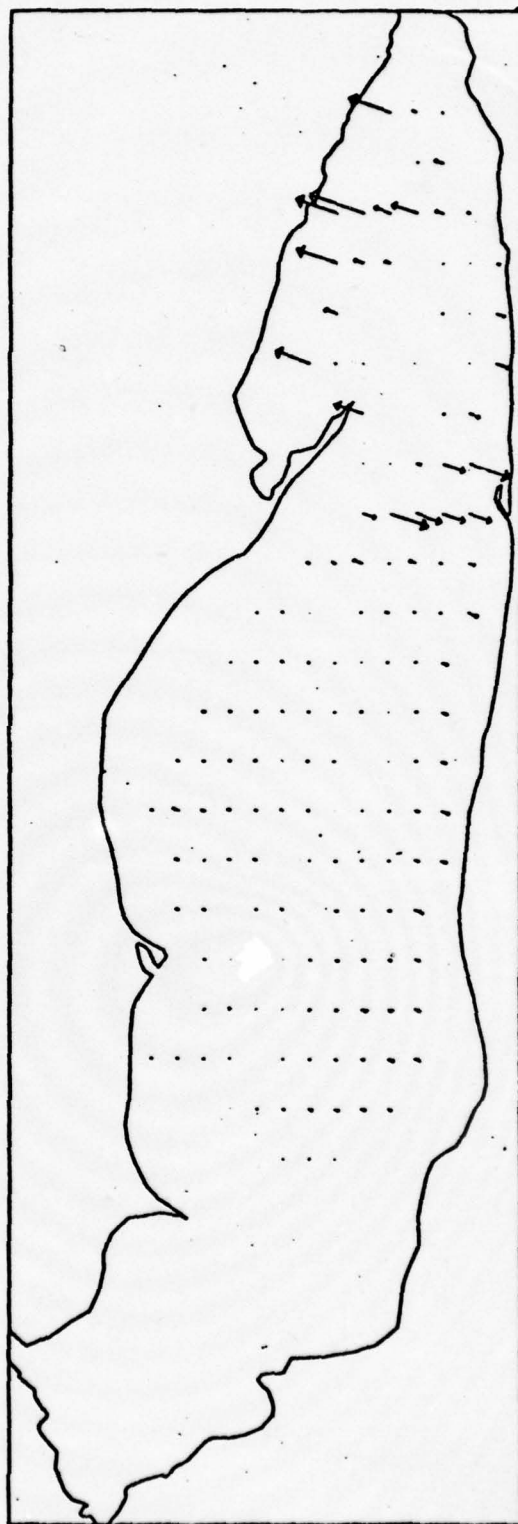


HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 60.0 FT
VECTOR LENGTH = 1 FOOT/SEC = _____ 1.0
17 MPH MIN



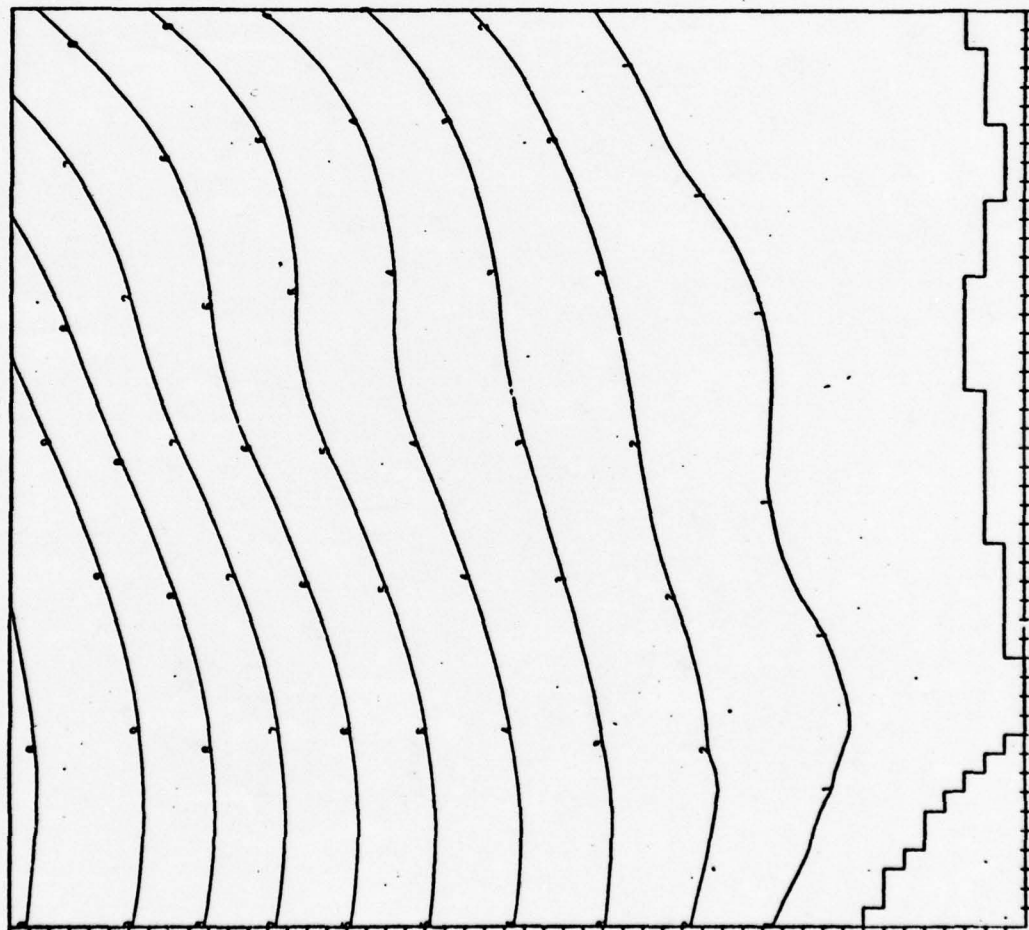






17 MPH.MMM

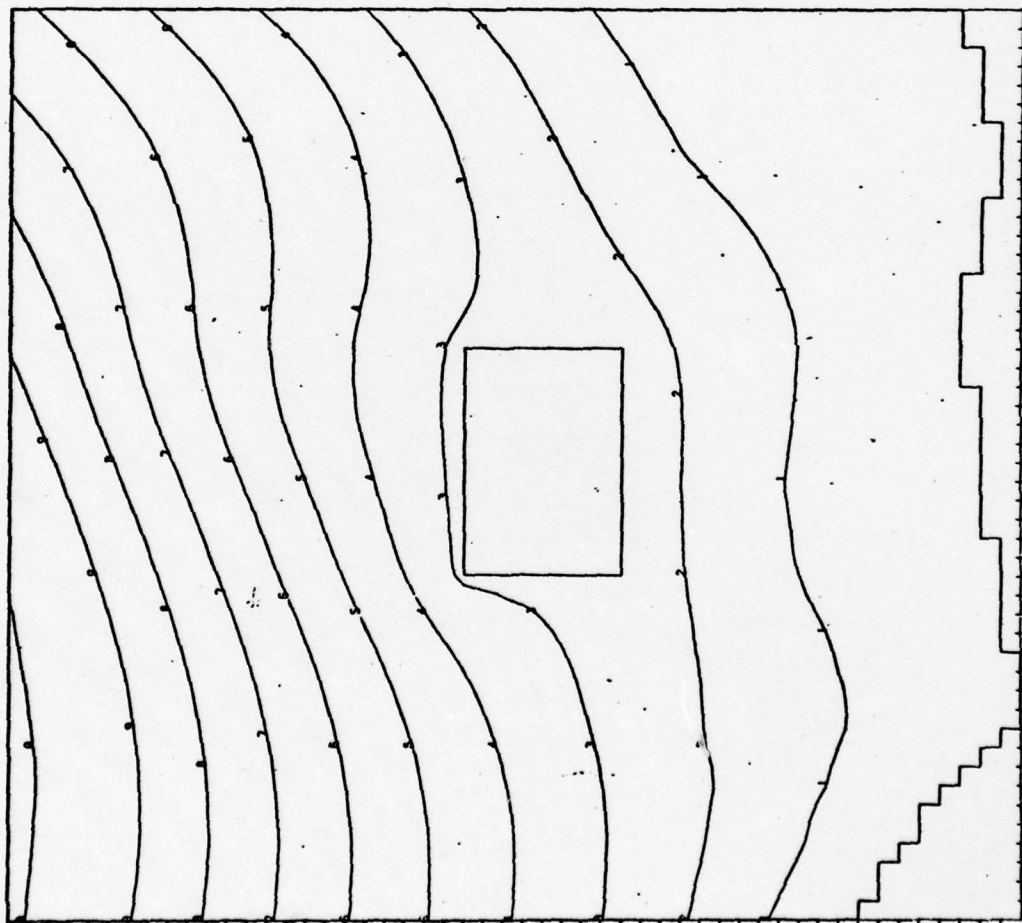
1200.0



SYMBOLS	CONTOUR LEVELS
1	0.100
2	0.300
3	0.500
4	0.700
5	0.900
6	1.100
7	1.300
8	1.500
9	1.700
A	2.000

CONTOURS OF STREAM FUNCTION FOR LAKE ERIE -- NEARSHORE

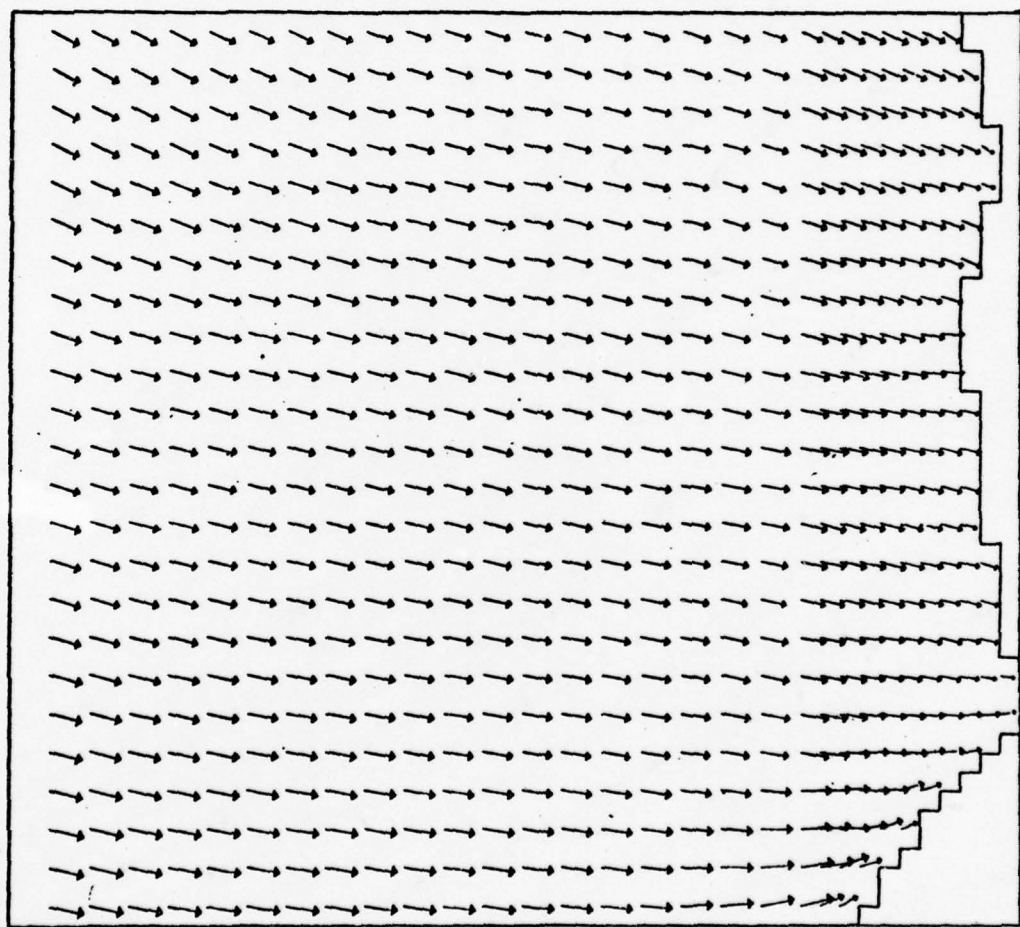
WA=17MPH.NNH



SYMBOLS
 CONTOUR LEVELS
 0.100
 0.300
 0.500
 0.700
 0.900
 1.100
 1.300
 1.500
 1.700
 2.000

CONTOURS OF STREAM FUNCTION FOR LAKE ERIE -- NEARSHORE

WA=17MPH,NNW

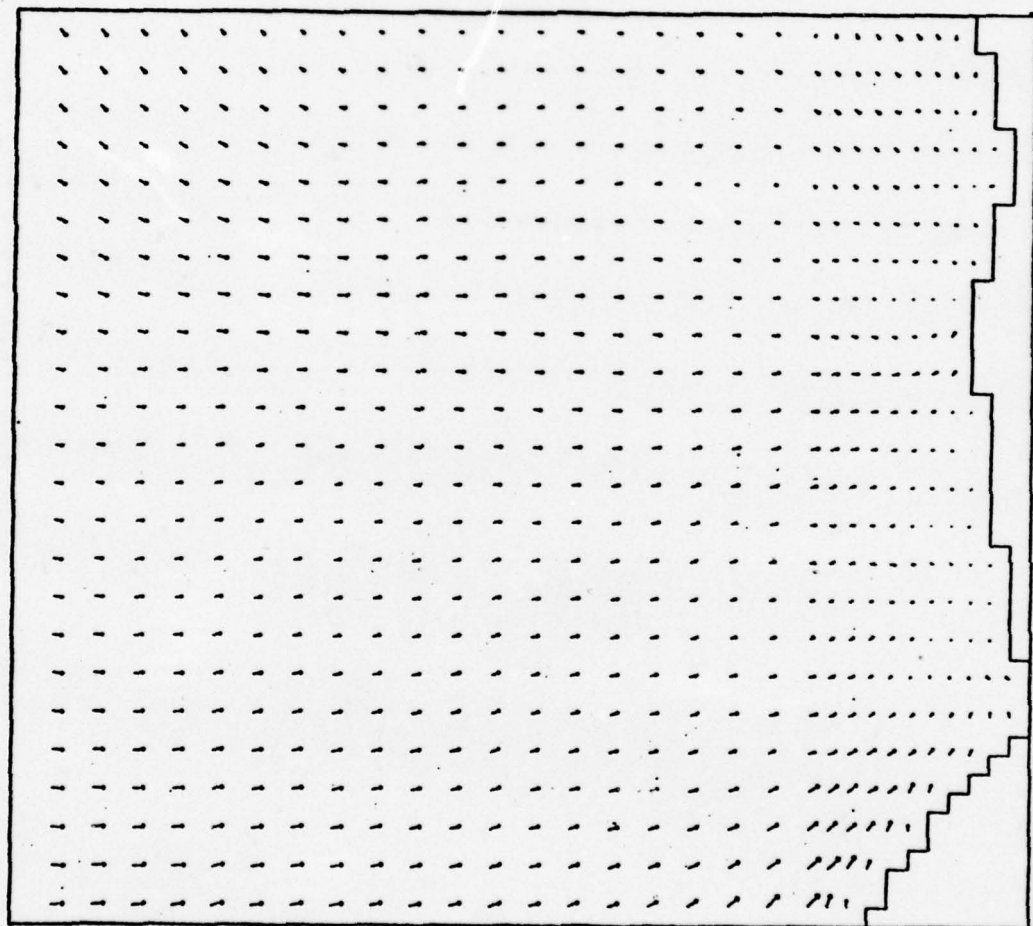


17 MPH.NNM

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 0.0 FT

1.0

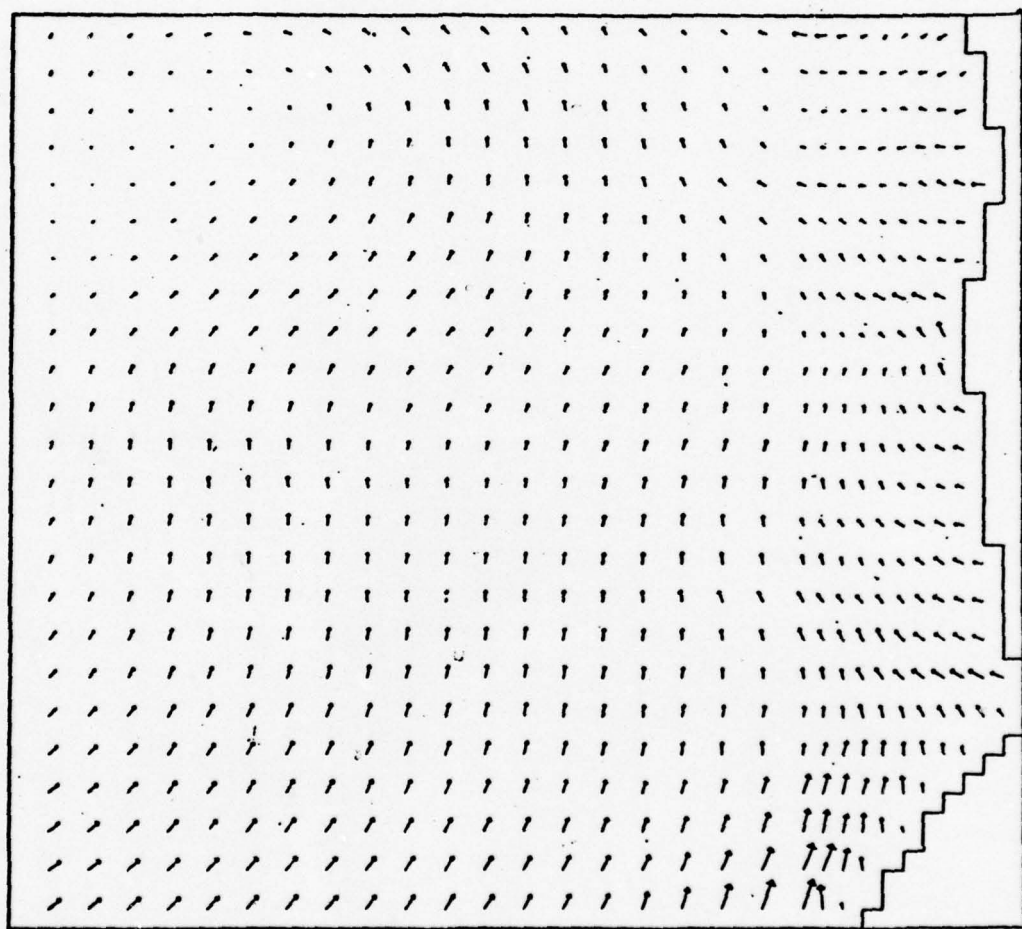
VECTOR LENGTH = 1 FOOT/SEC = —



17 MPH/MM

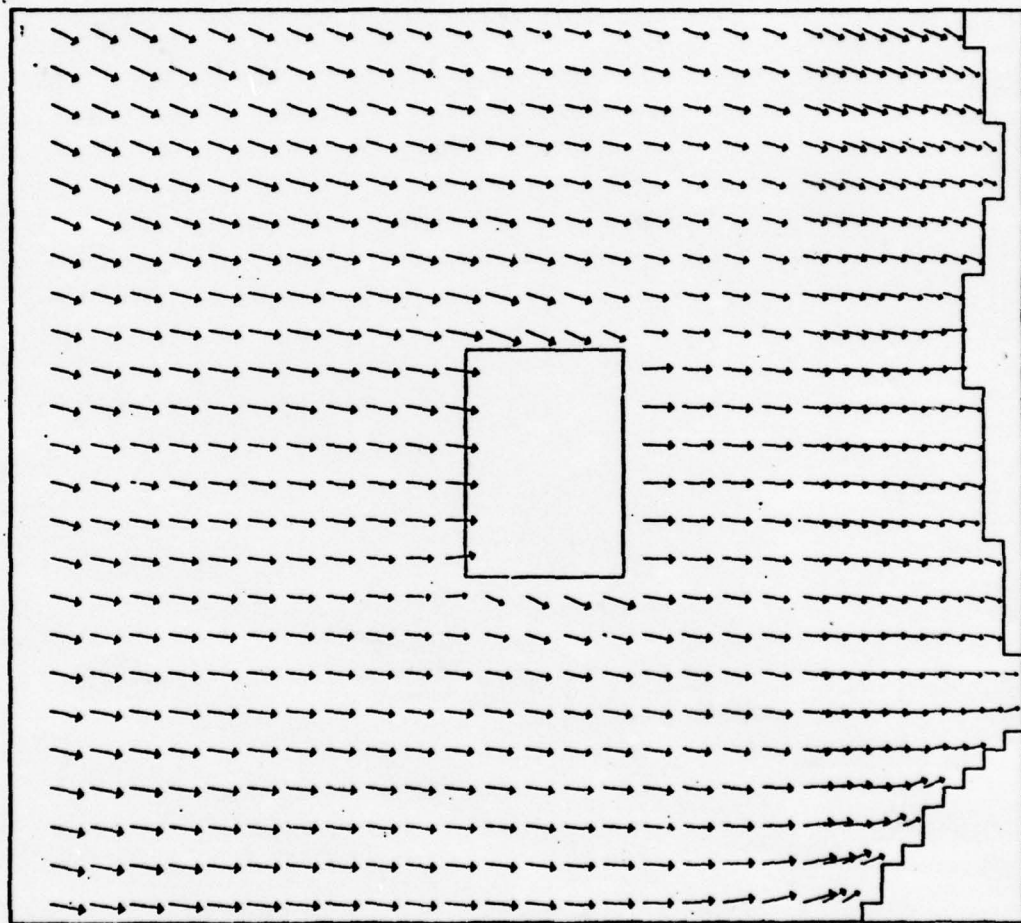
HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 10.0 FT

VECTOR LENGTH = 1 FOOT/SEC = ——— 1.0



17 MPH/MM

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 15.0 FT
VECTOR LENGTH = 1 FOOT/SEC = 1.0

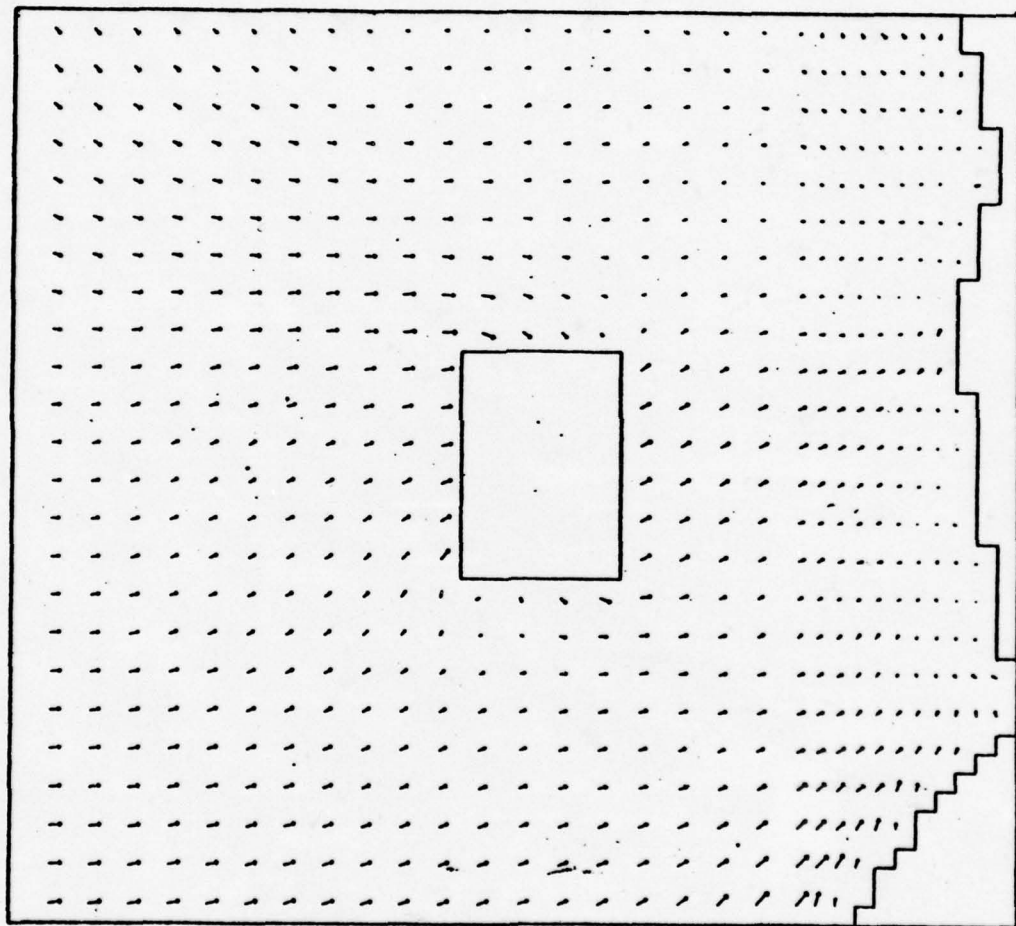


17 MPH. MIN

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 0.0 FT

VECTOR LENGTH = 1 FOOT/SEC = —

1.0

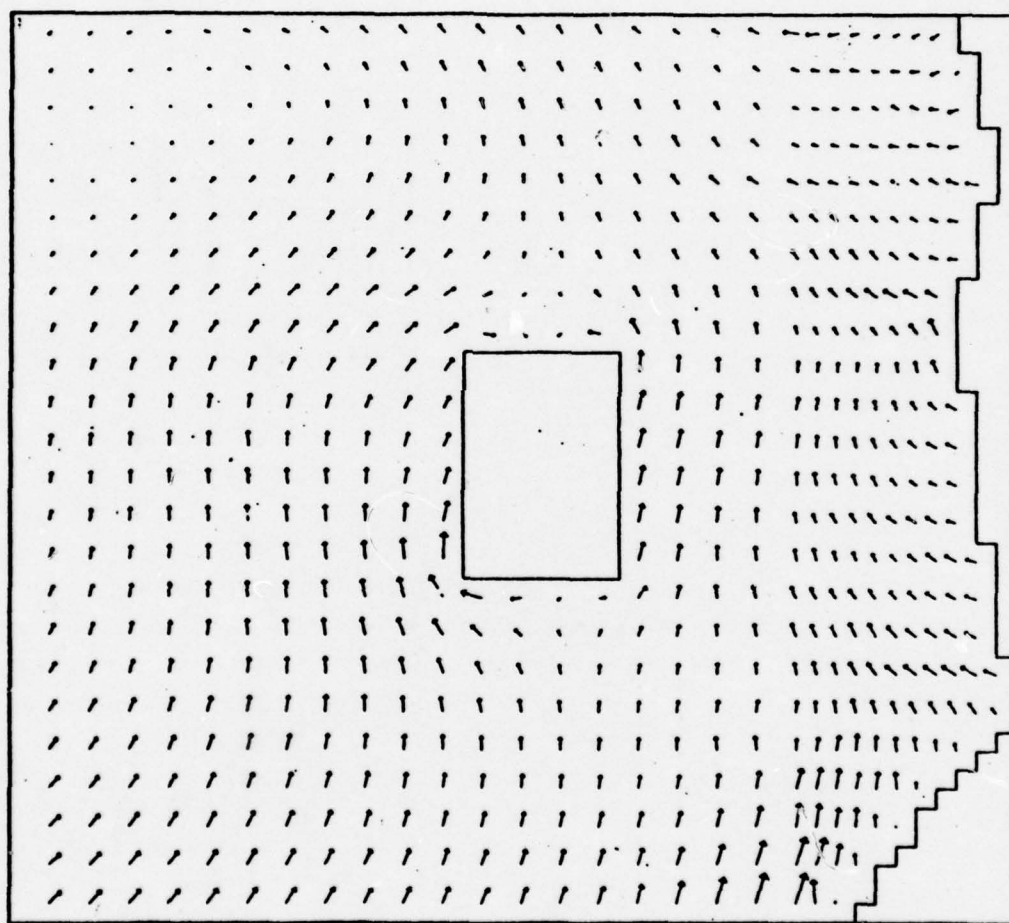


17 NPM.NNM

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 10.0 FT

1.0

VECTOR LENGTH = 1 FOOT/SEC

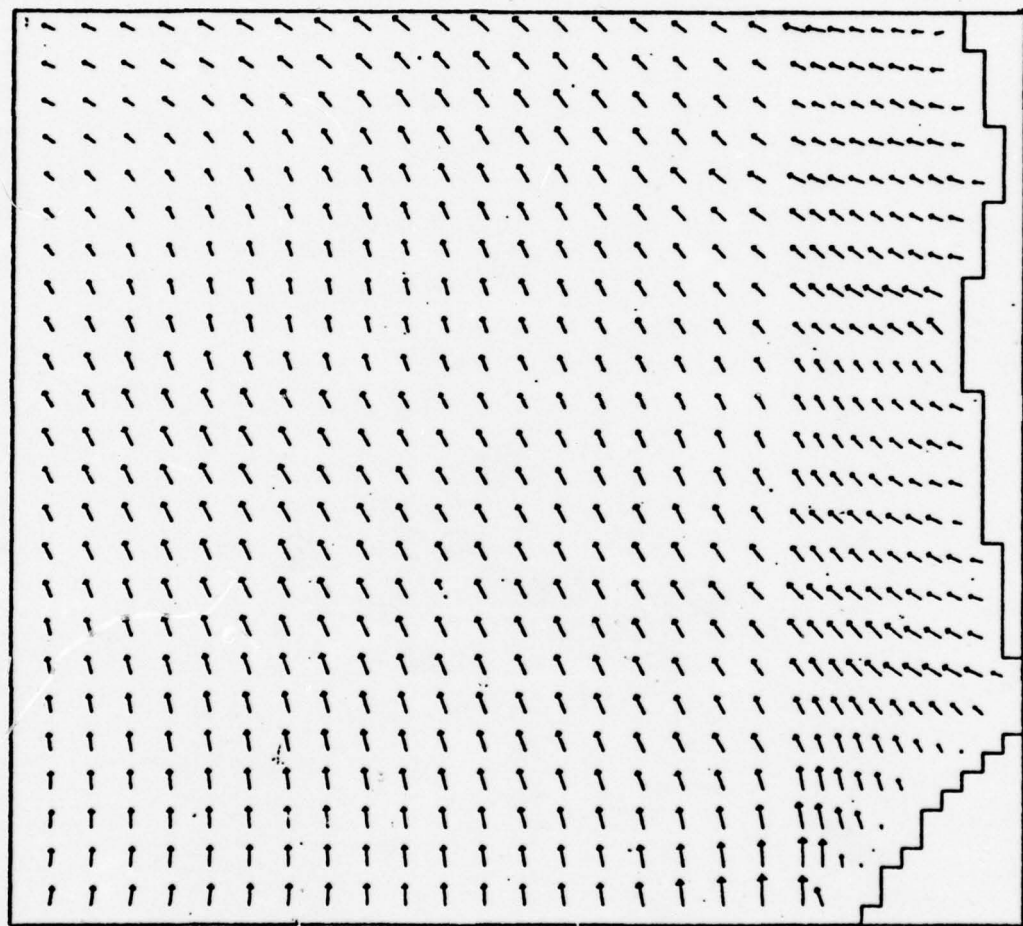


17 MPH.MNH

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 15.0 FT

1.0

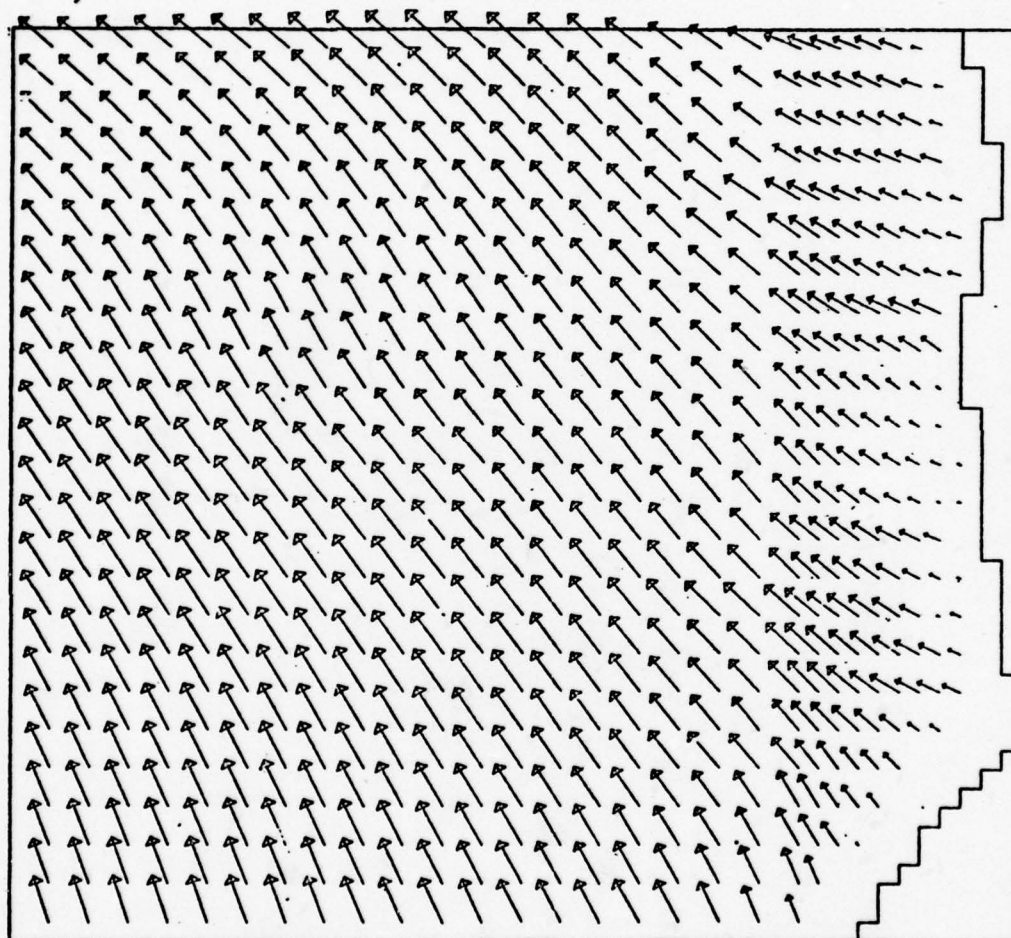
VECTOR LENGTH = 1 FOOT/SEC =



17 MPH.NNW

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 20.0 FT

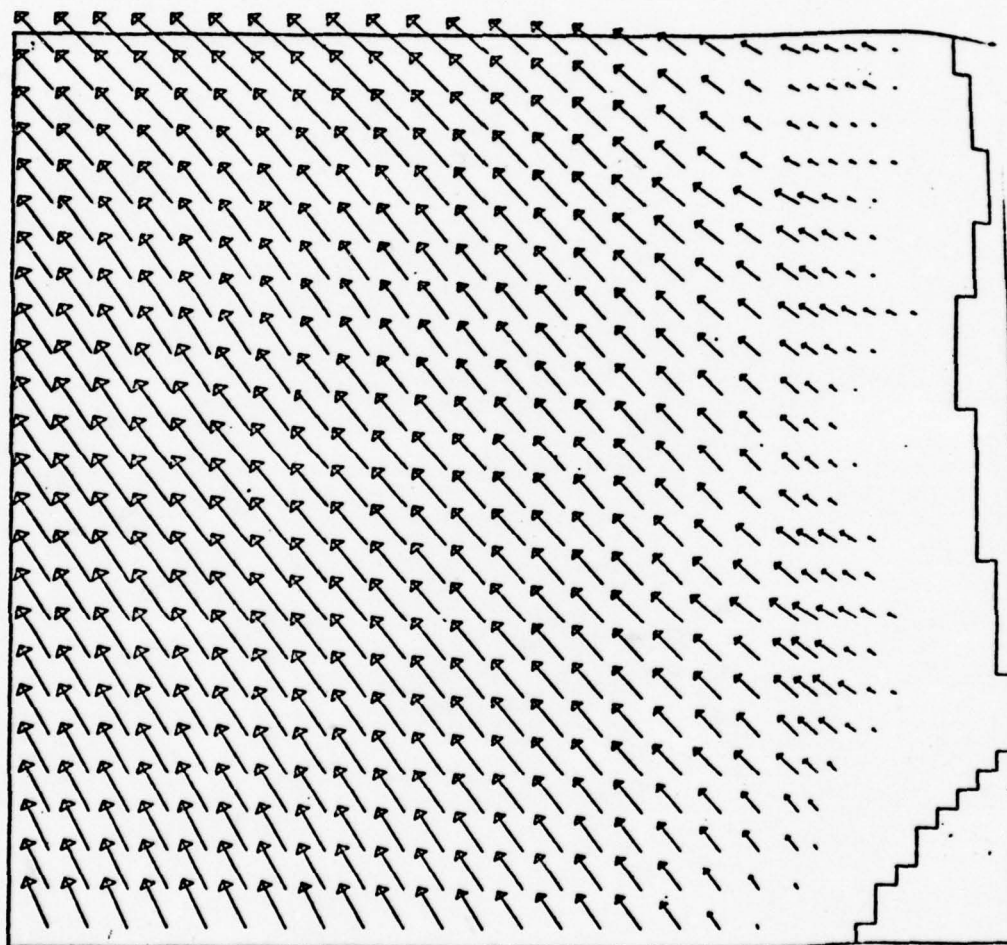
VECTOR LENGTH = 1 FOOT/SEC = 1.0



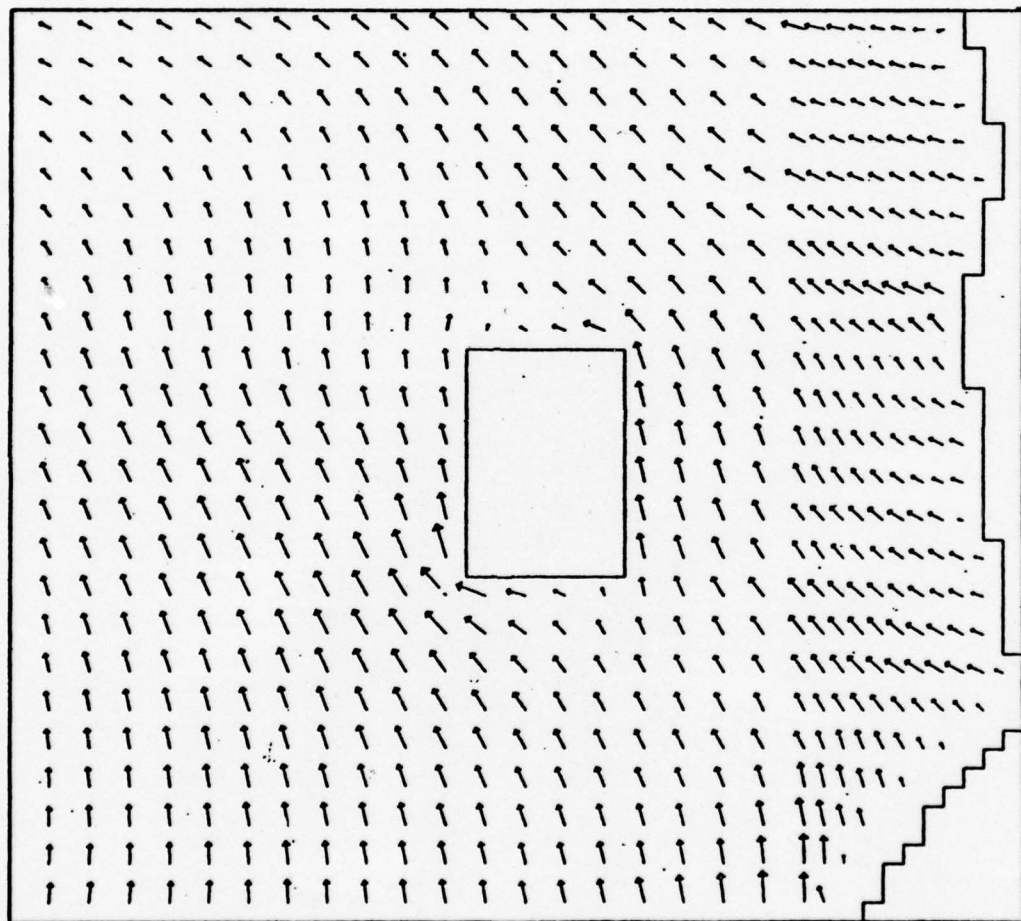
17 MPH.NNM

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 30.0 FT

VECTOR LENGTH = 1 FOOT/SEC = 1.0



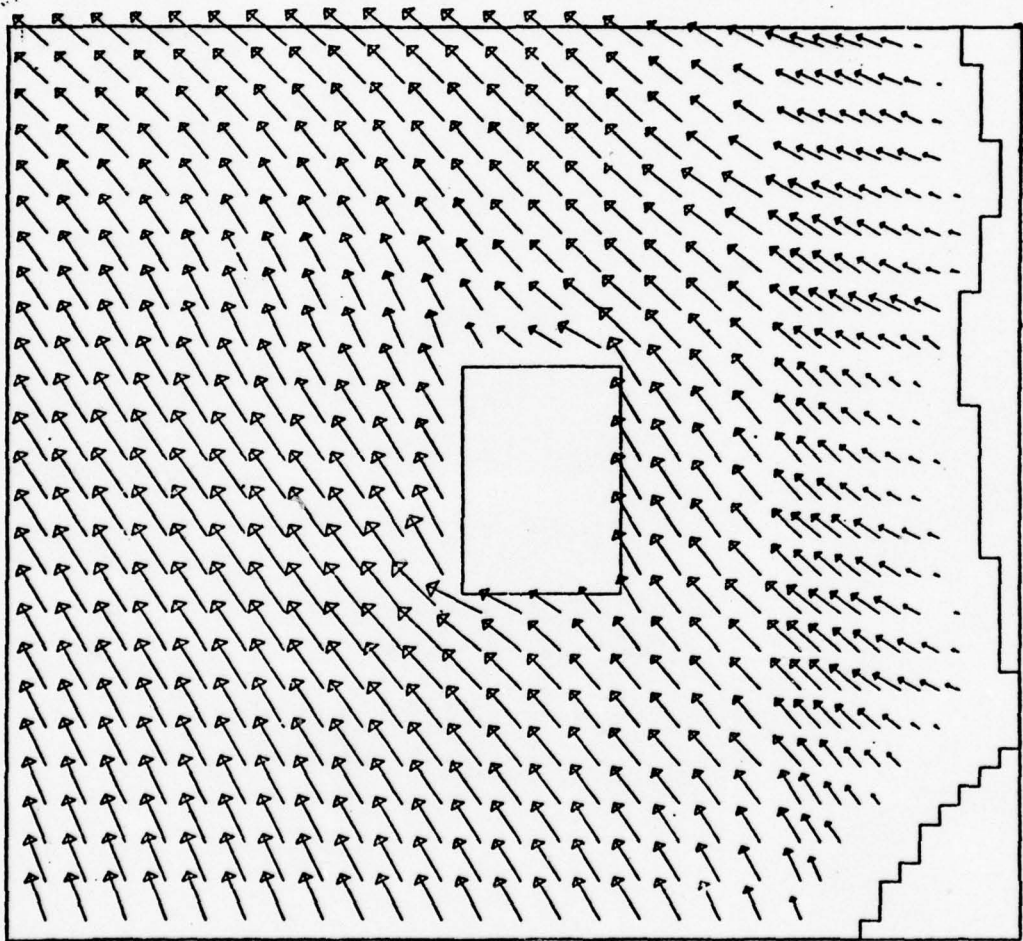
HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 40.0 FT
VECTOR LENGTH = 1 FOOT/SEC



17 MPH.MNM

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 20.0 FT

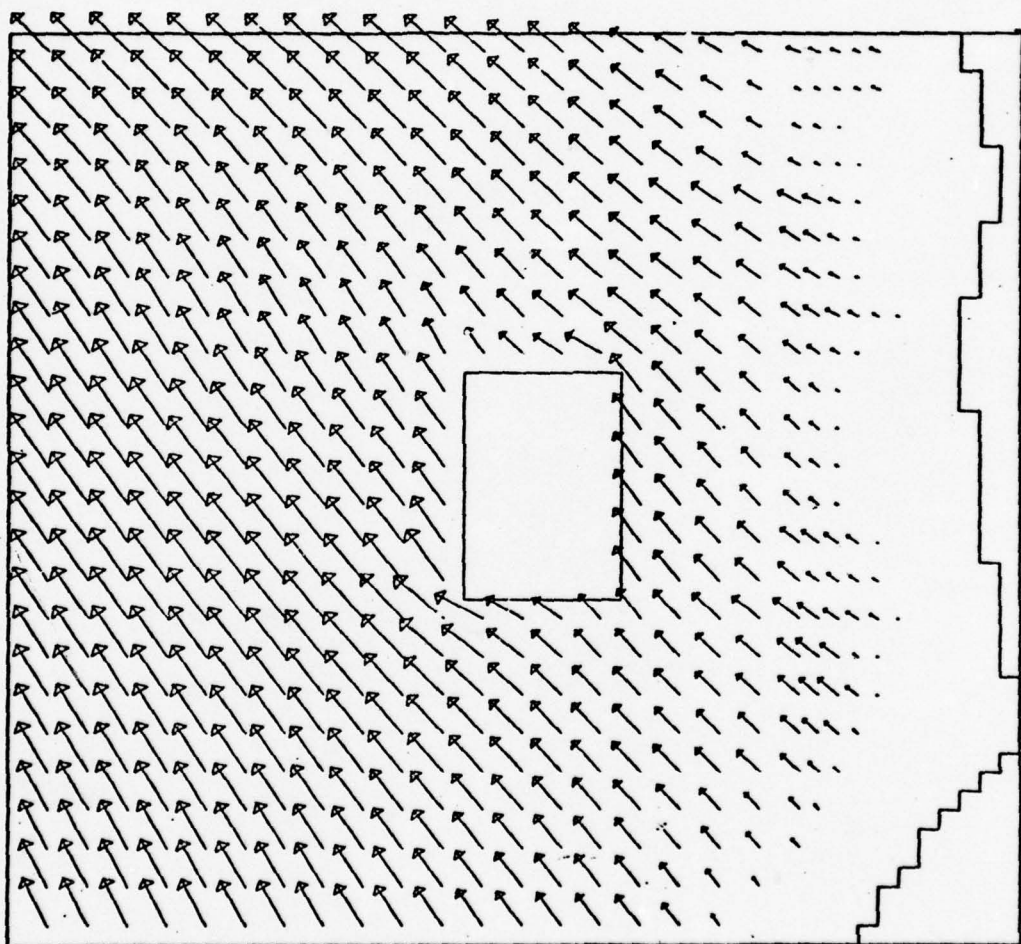
VECTOR LENGTH = 1 FOOT/SEC = 1.0



17 MPH.NNH

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 30.0 FT

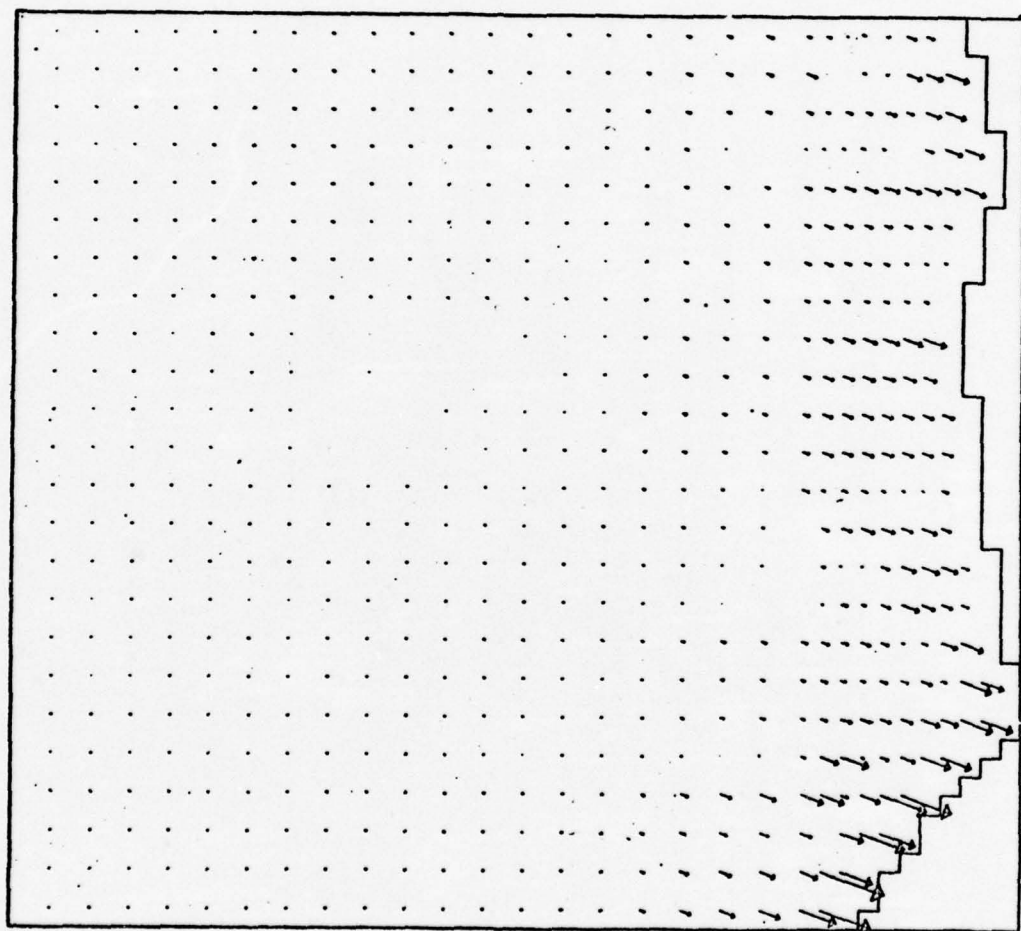
VECTOR LENGTH = 1 FOOT/SEC = 1.0



17 MPH.NNH

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 40.0 FT

VECTOR LENGTH = 1 FOOT/SEC = 1.0



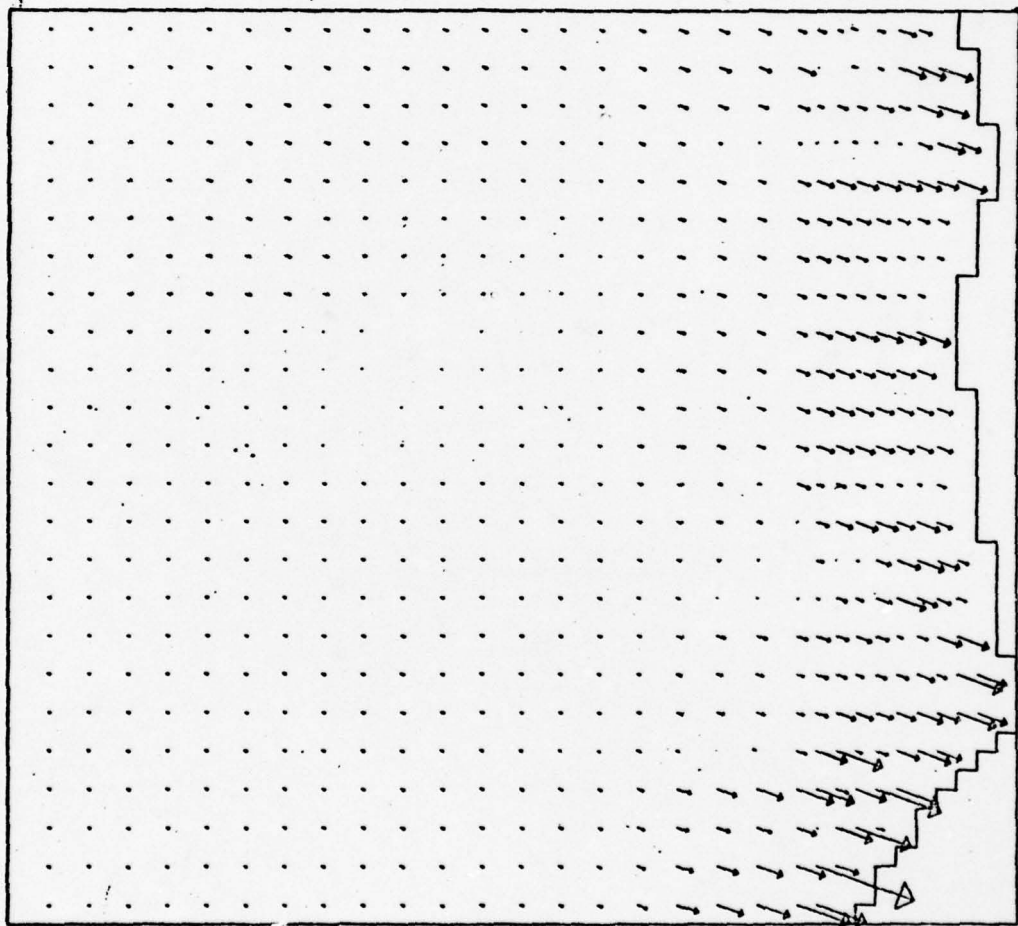
17 MPH.NNM

10.0 FT

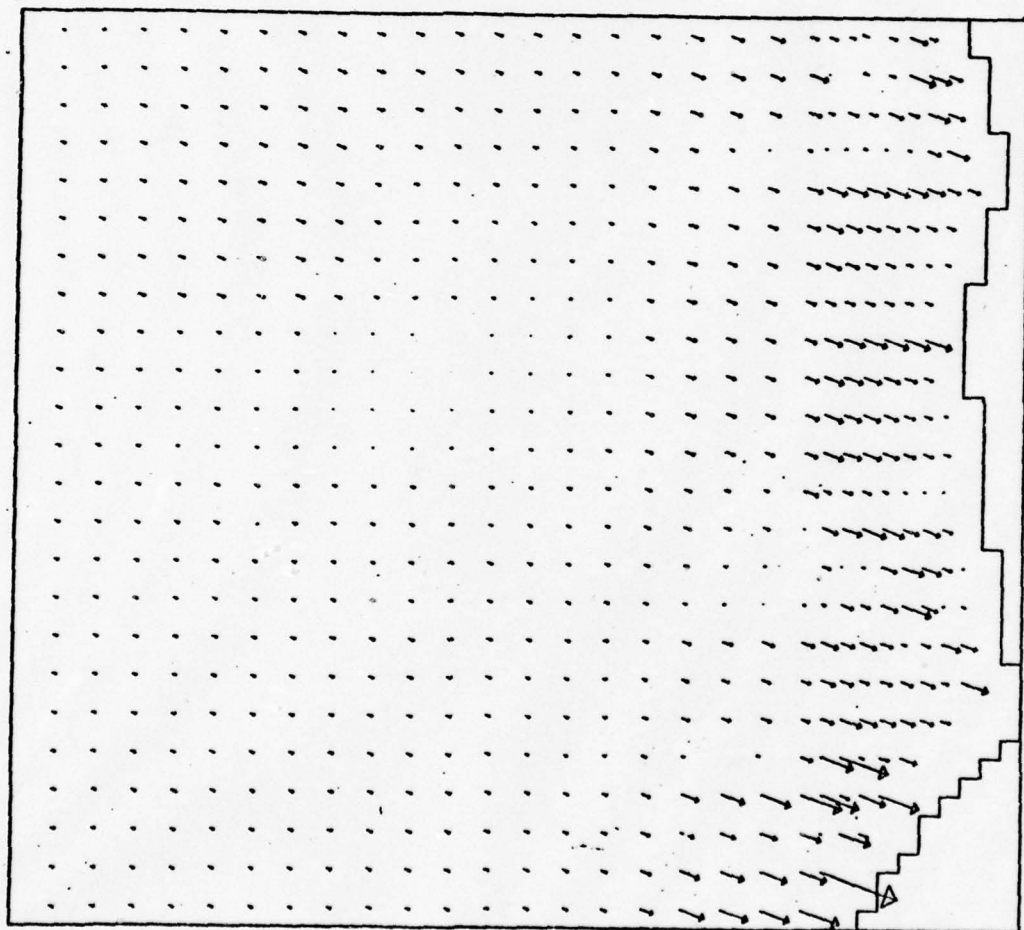
VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

500.0

VECTOR LENGTH = 1 FOOT/SEC =



VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF 20.0 FT 17 MPH.NNH
VECTOR LENGTH = 1 FOOT/SEC = 500.0



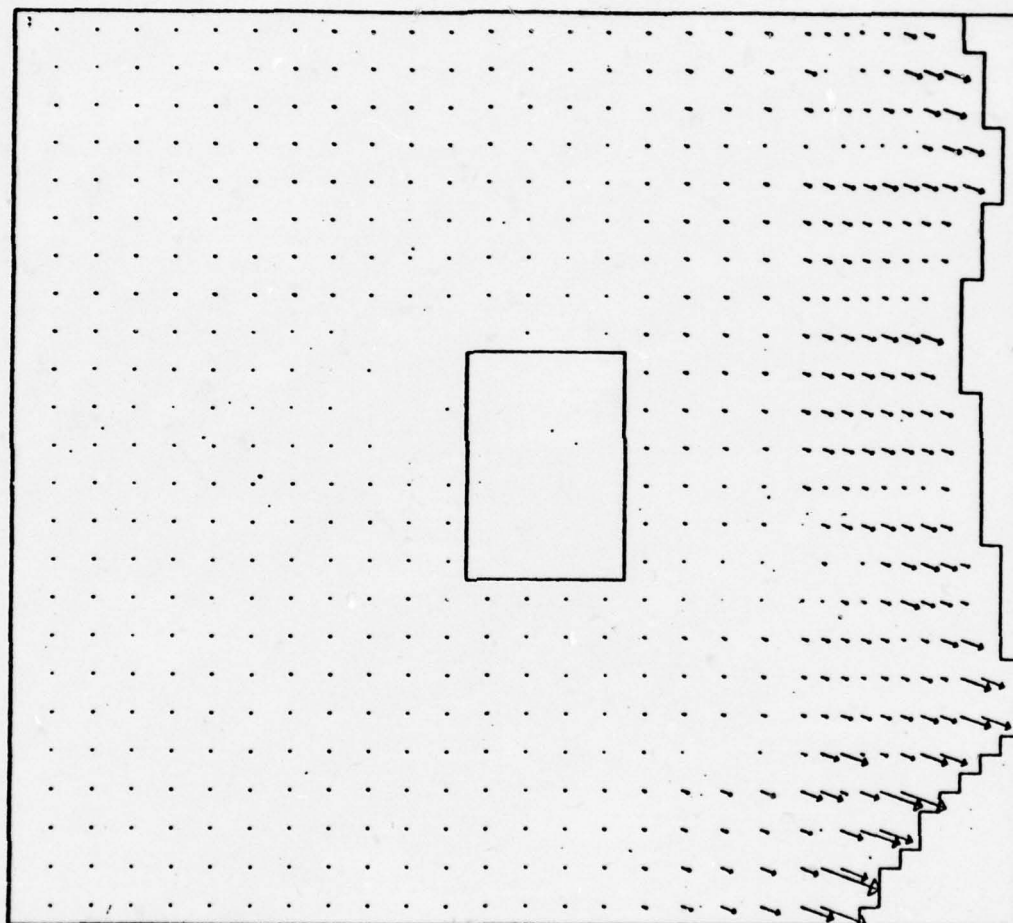
17 MPH.MNH

30.0 FT

500.0

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

VECTOR LENGTH = 1 FOOT/SEC =



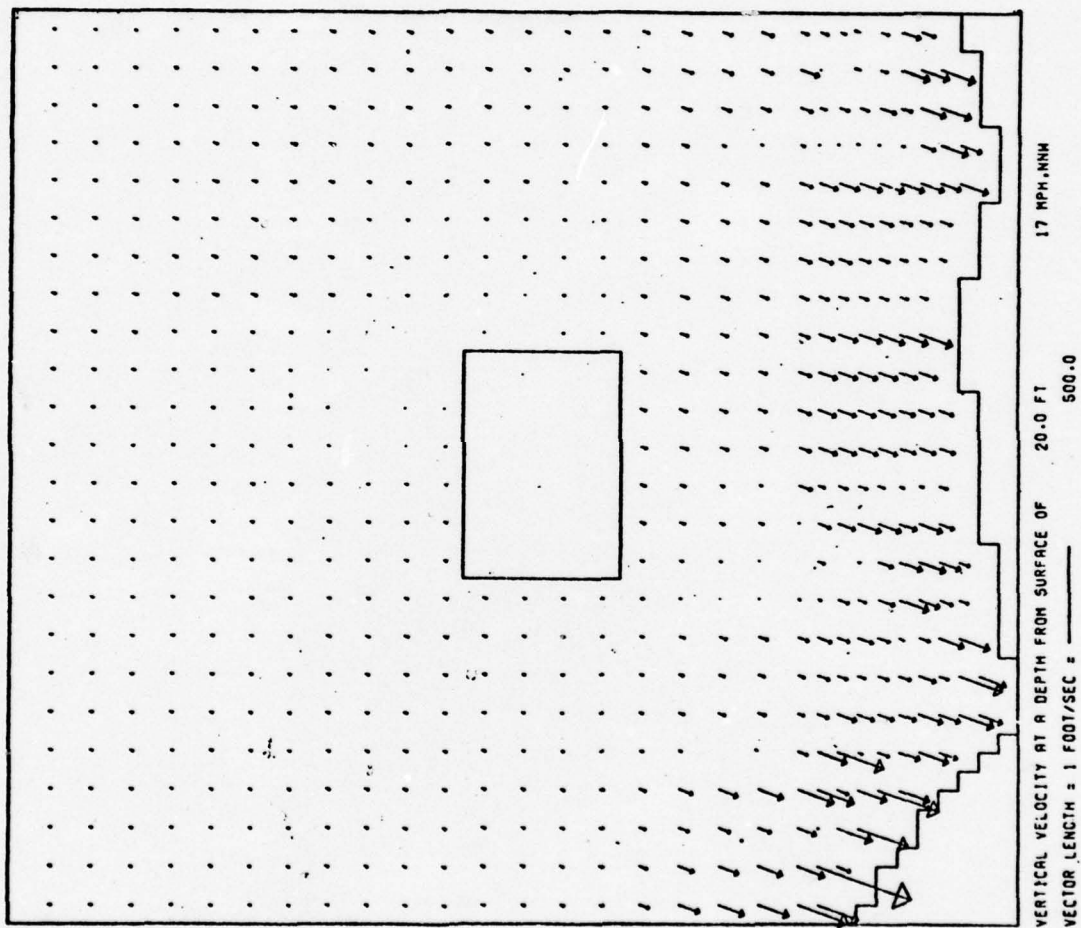
17 MPH.NNM

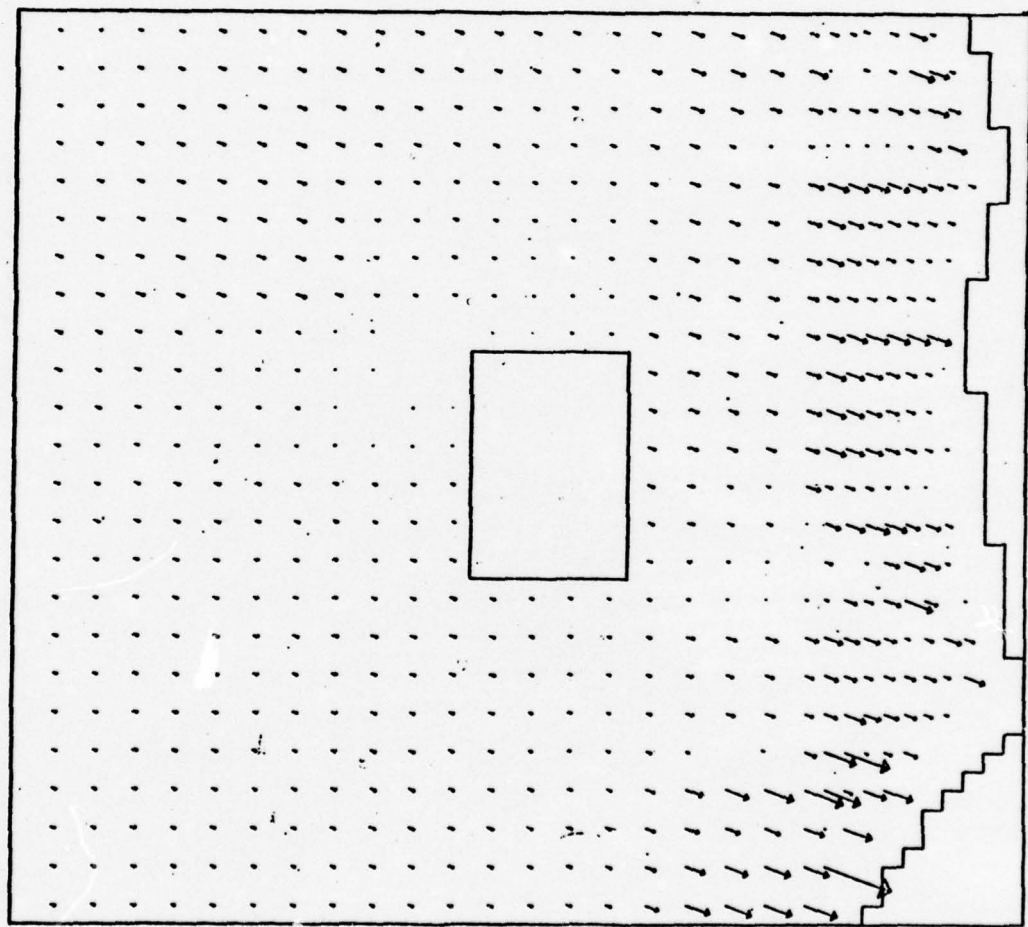
10.0 FT

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

VECTOR LENGTH = 1 FOOT/SEC =

500.0





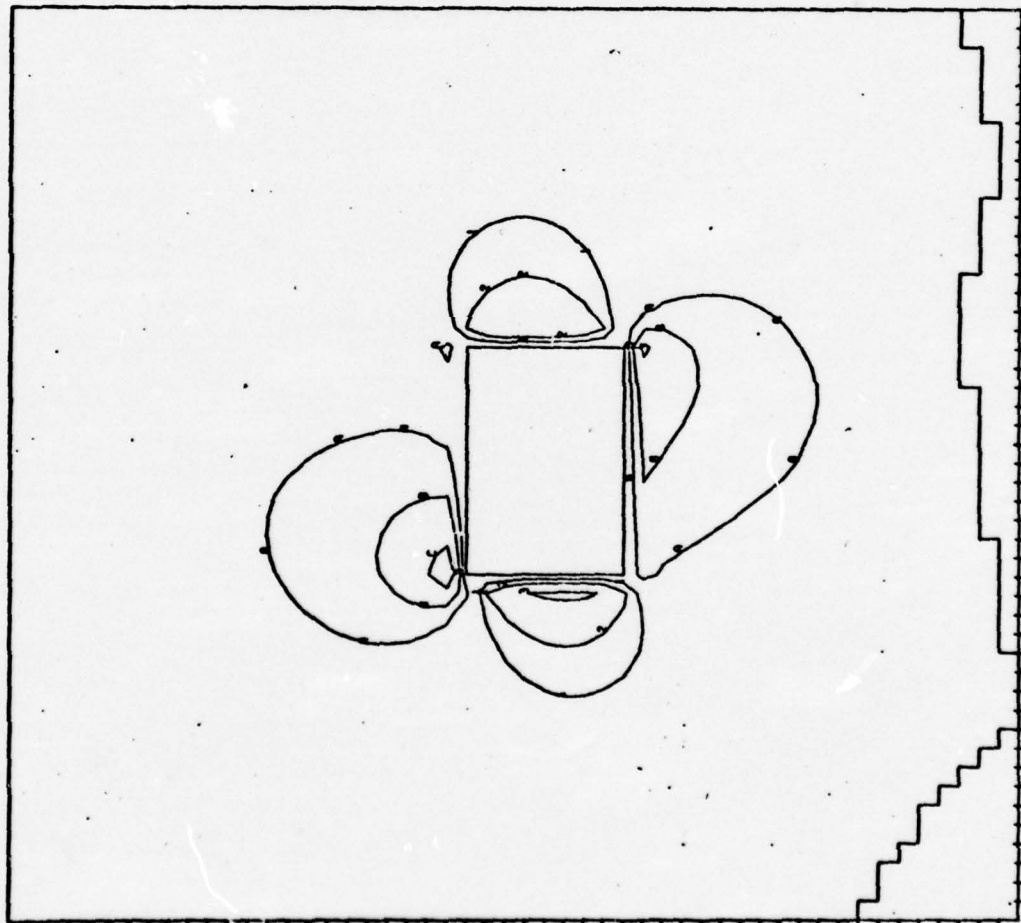
17 MPH.NNW

30.0 FT

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

VECTOR LENGTH = 1 FOOT/SEC =

SYMBOLS 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100
 CONTOUR LEVELS
 0.050
 0.100
 0.200
 0.400
 0.600
 0.800
 1.000
 1.200
 1.400
 1.600
 1.800
 2.000
 -0.050
 -0.100
 -0.200
 -0.400
 -0.600
 -0.800
 -1.000
 -1.200
 -1.400
 -1.600
 -1.800
 -2.000

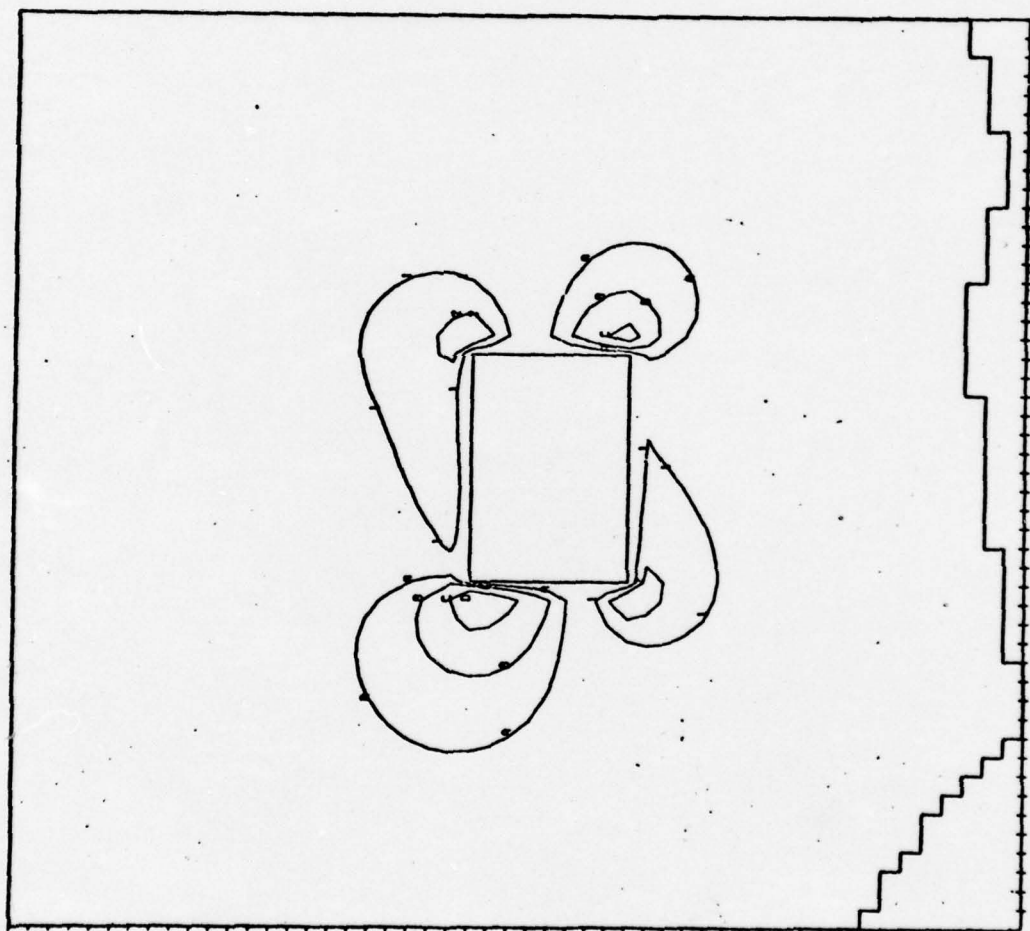


CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

U.D=0.W=17NNH

SYMBOLS
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

CONTOUR LEVELS
 0.050
 0.100
 0.200
 0.400
 0.600
 0.800
 1.000
 1.500
 2.000
 -0.050
 -0.100
 -0.200
 -0.400
 -0.600
 -0.800
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 -1.500
 -2.000

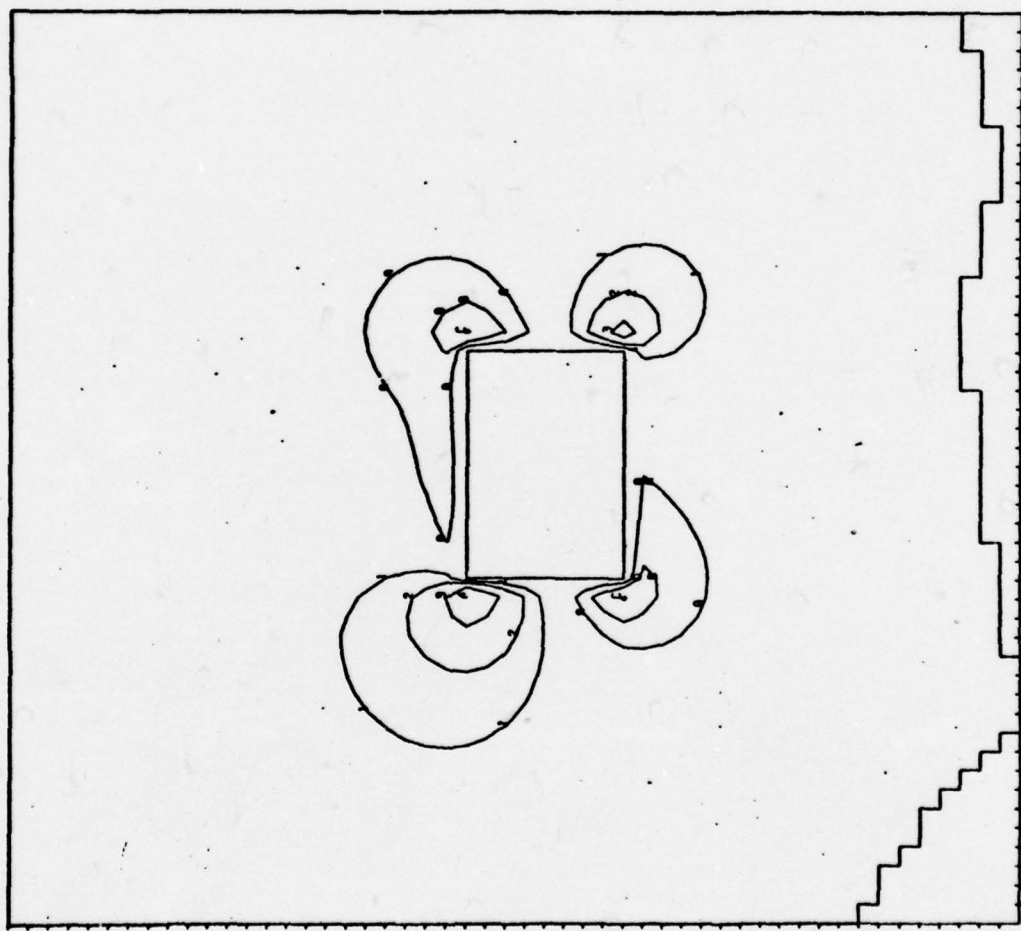


CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

V.D=0.H=17NNH

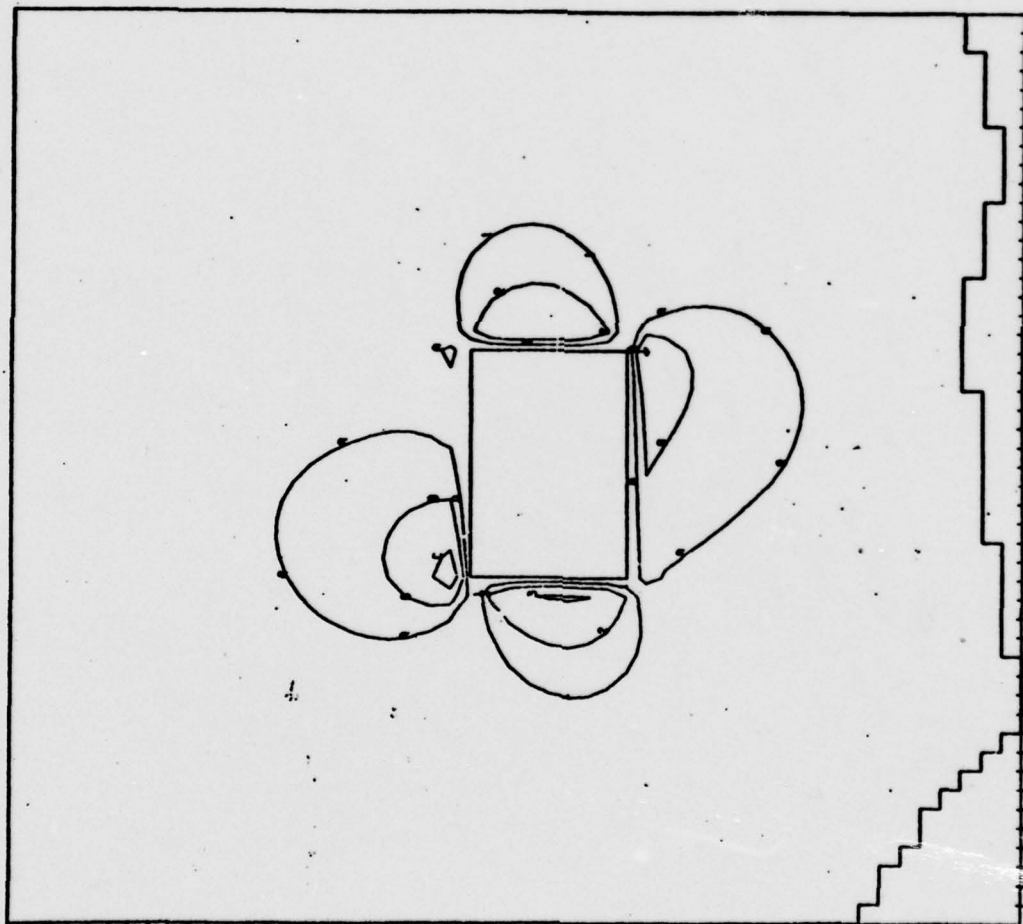
SYMBOLS
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

CONTOUR LEVELS
 0.050
 0.100
 0.200
 0.400
 0.600
 0.800
 1.000
 1.500
 2.000
 -0.050
 -0.100
 -0.200
 -0.400
 -0.600
 -0.800
 -1.000
 -1.500
 -2.000



CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

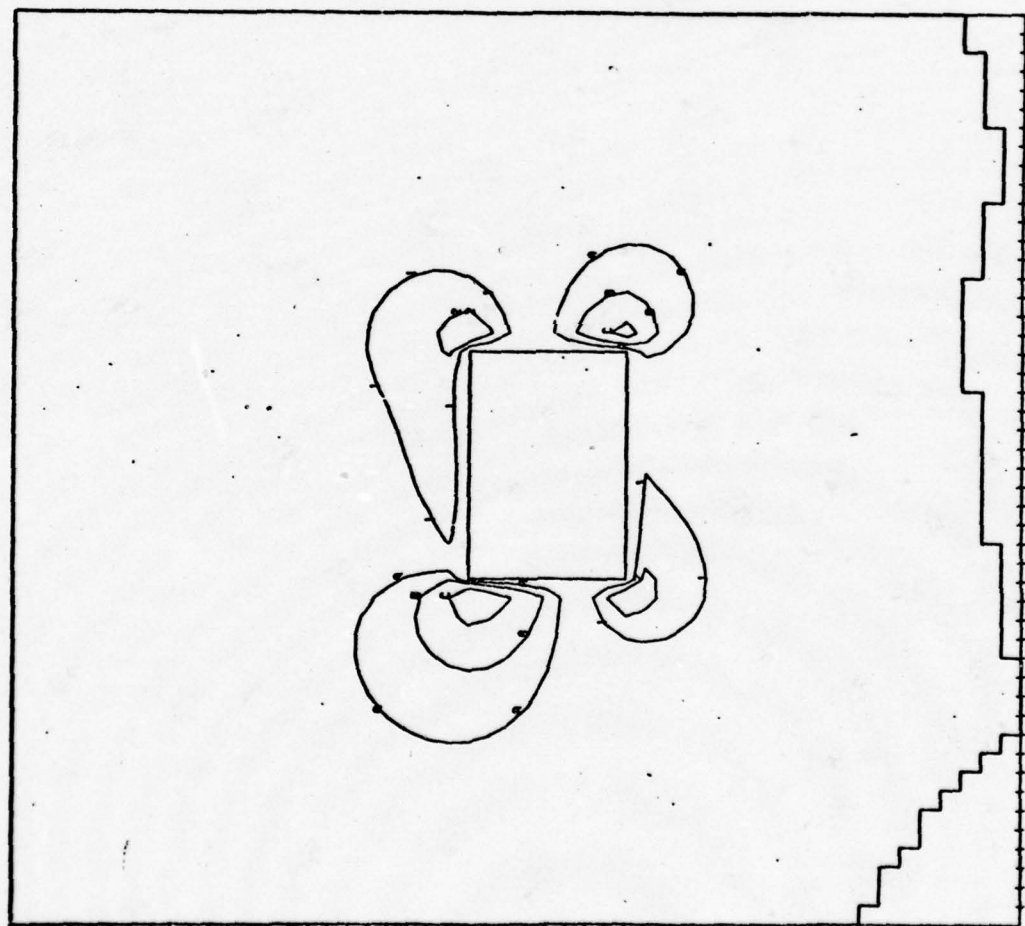
M.O.D.W=17NNW



SYMBOLS
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000

U.D=15.M=17NNH

CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE



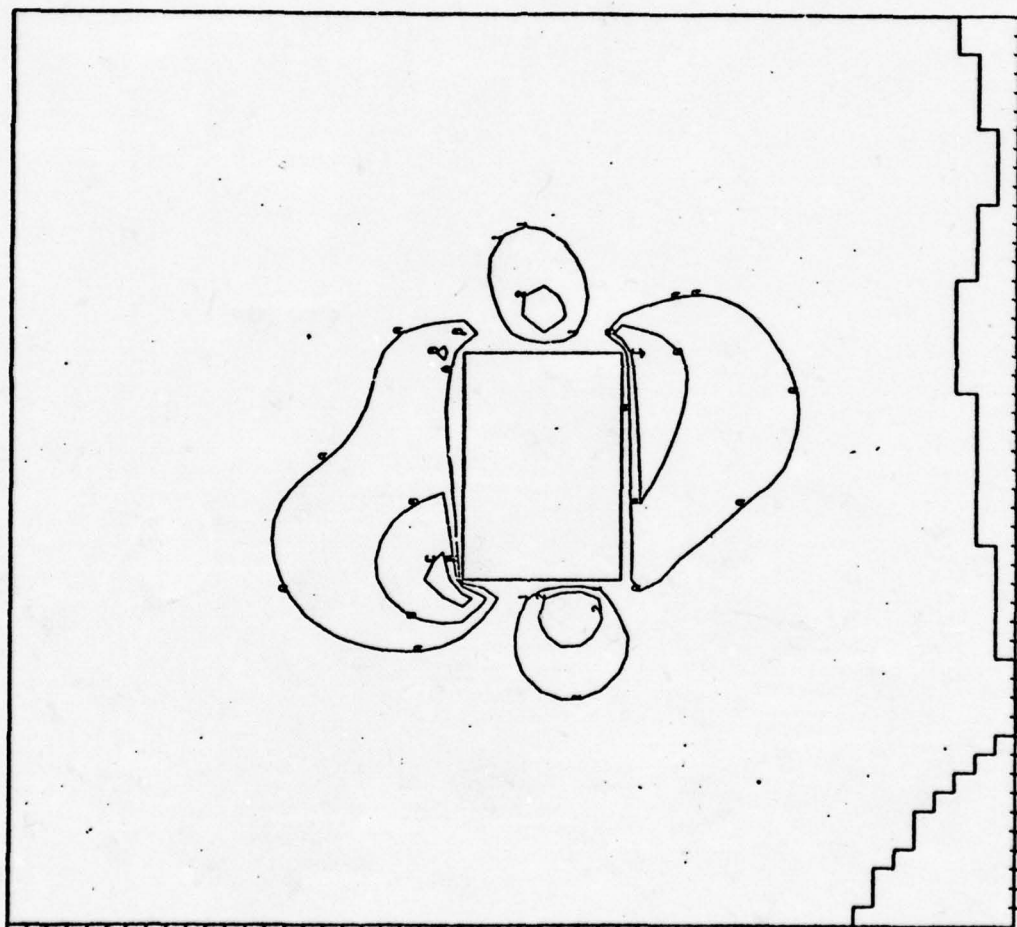
CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

V.D=15.W=17NNW

SYMBOLS	CONTOUR LEVELS
1	0.050
2	0.100
3	0.200
4	0.400
5	0.600
6	0.800
7	1.000
8	1.500
9	2.000
A	3.000
B	4.000
C	5.000
D	6.000
E	7.000
F	8.000
G	9.000
H	10.000
I	11.000

SYMBOLS CONTOUR LEVELS

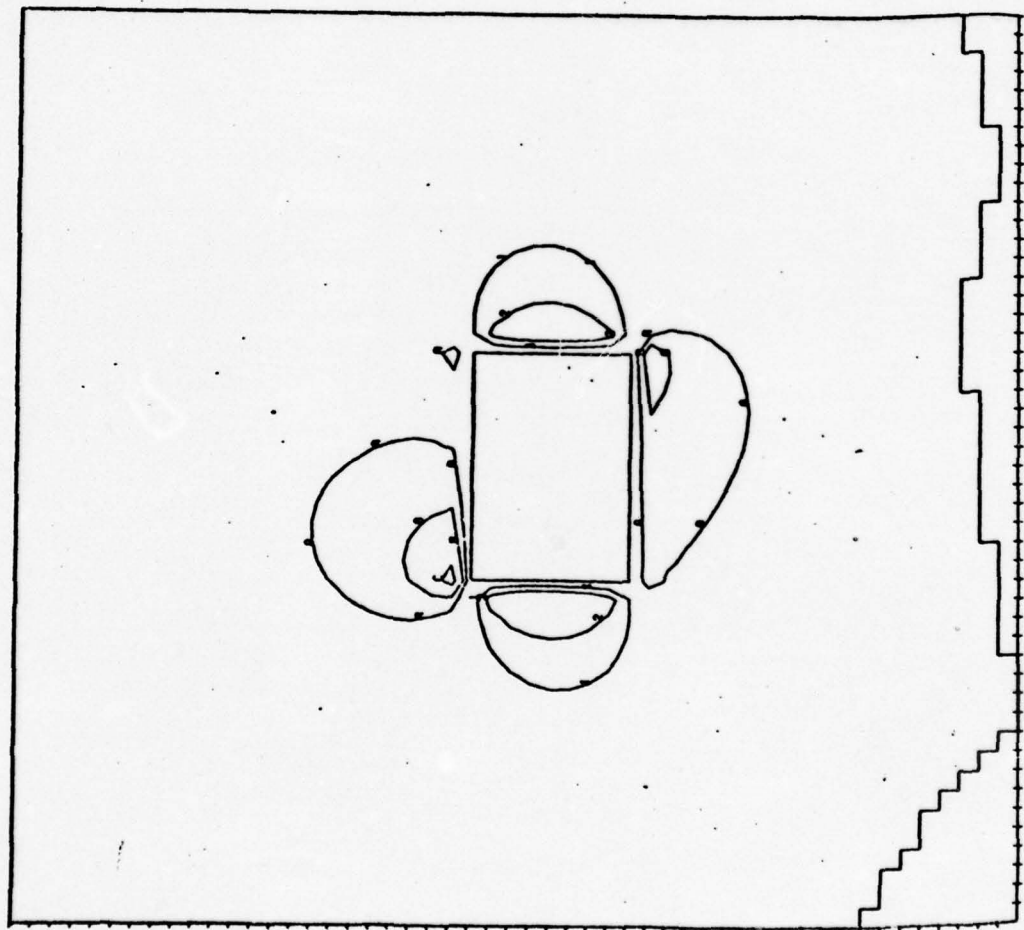
1	0.050
2	0.100
3	0.200
4	0.400
5	0.600
6	0.800
7	1.000
8	1.200
9	1.400
10	1.600
11	1.800
12	2.000
13	-0.050
14	-0.100
15	-0.200
16	-0.400
17	-0.600
18	-0.800
19	-1.000
20	-1.200
21	-1.400
22	-1.600
23	-1.800
24	-2.000



CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

M.O=15.W=17NNH

SYMBOLS 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000

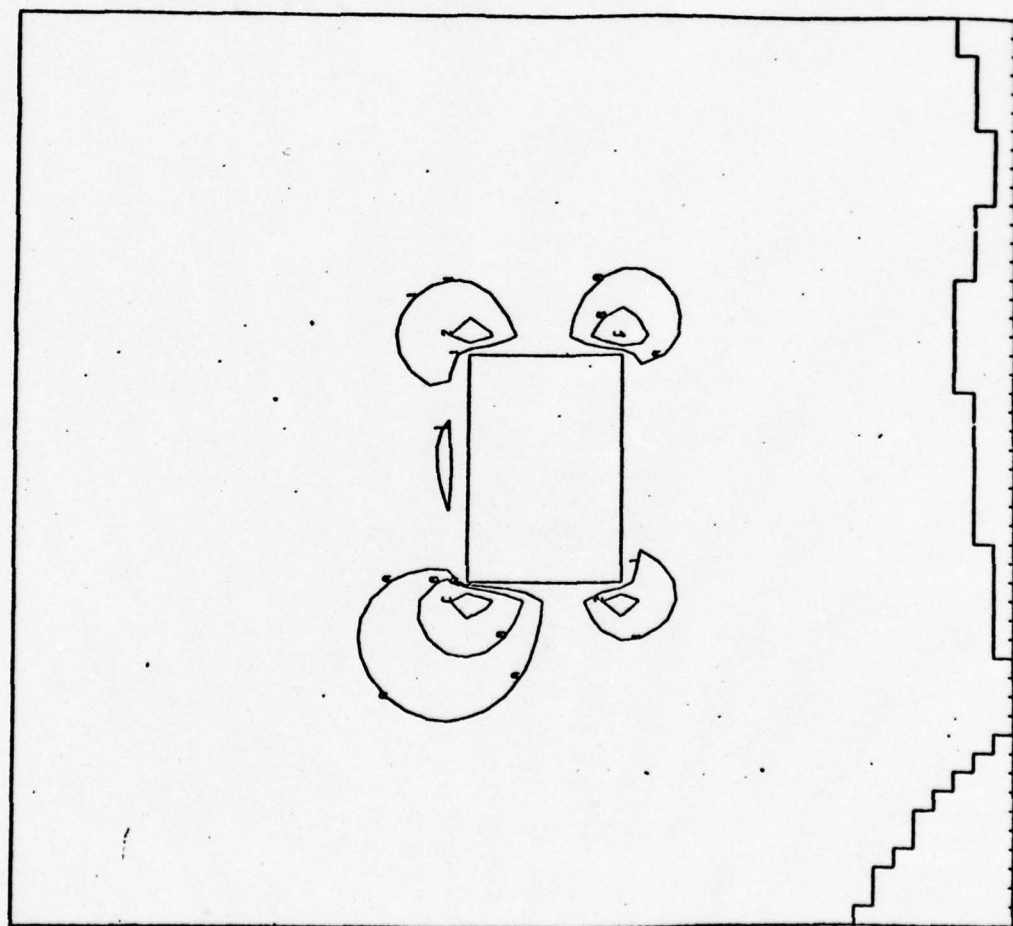


CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

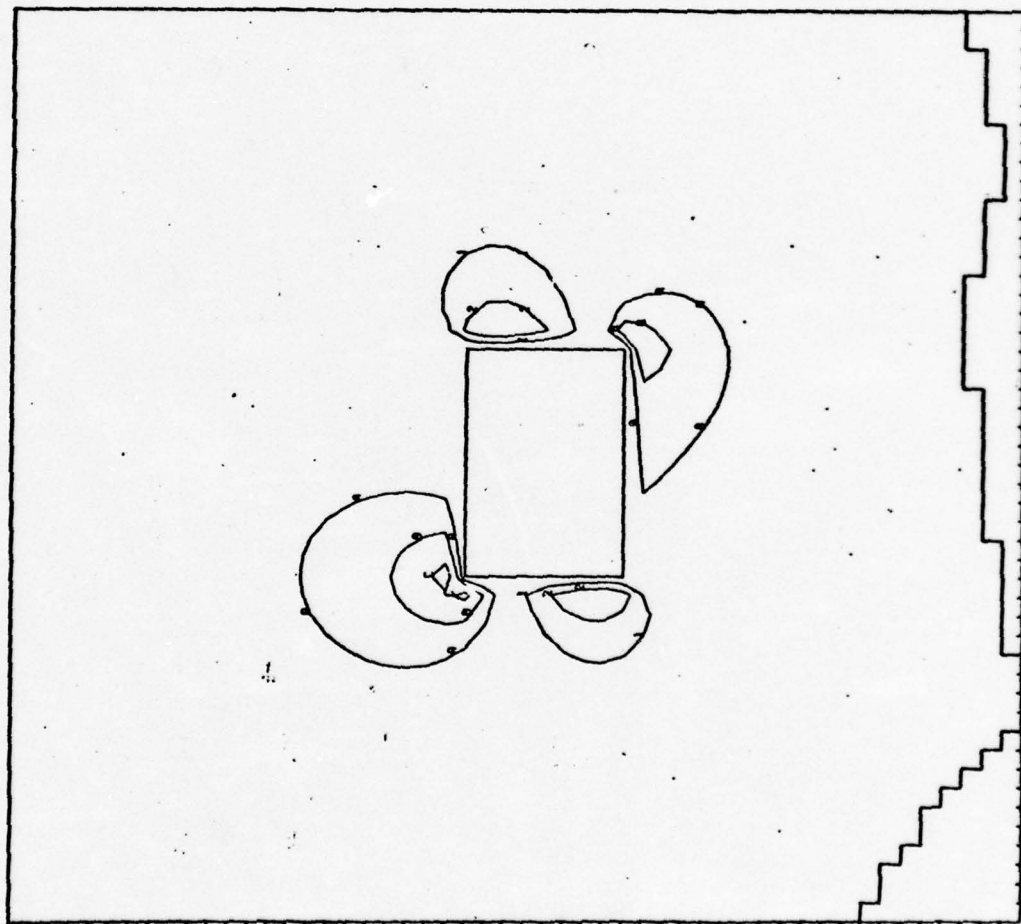
SYMBOLS

CONTOUR LEVELS

0.050
0.100
0.200
0.400
0.600
0.800
1.000
1.500
2.000
-0.050
-0.100
-0.200
-0.400
-0.600
-0.800
-1.000
-1.500
-2.000



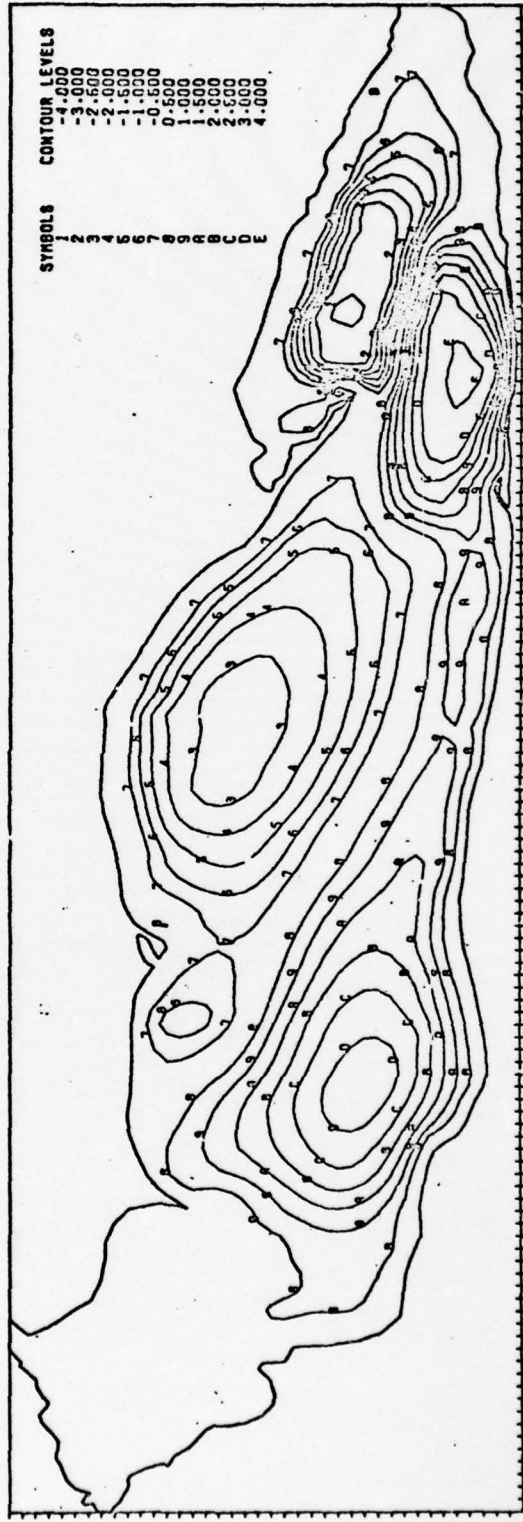
CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

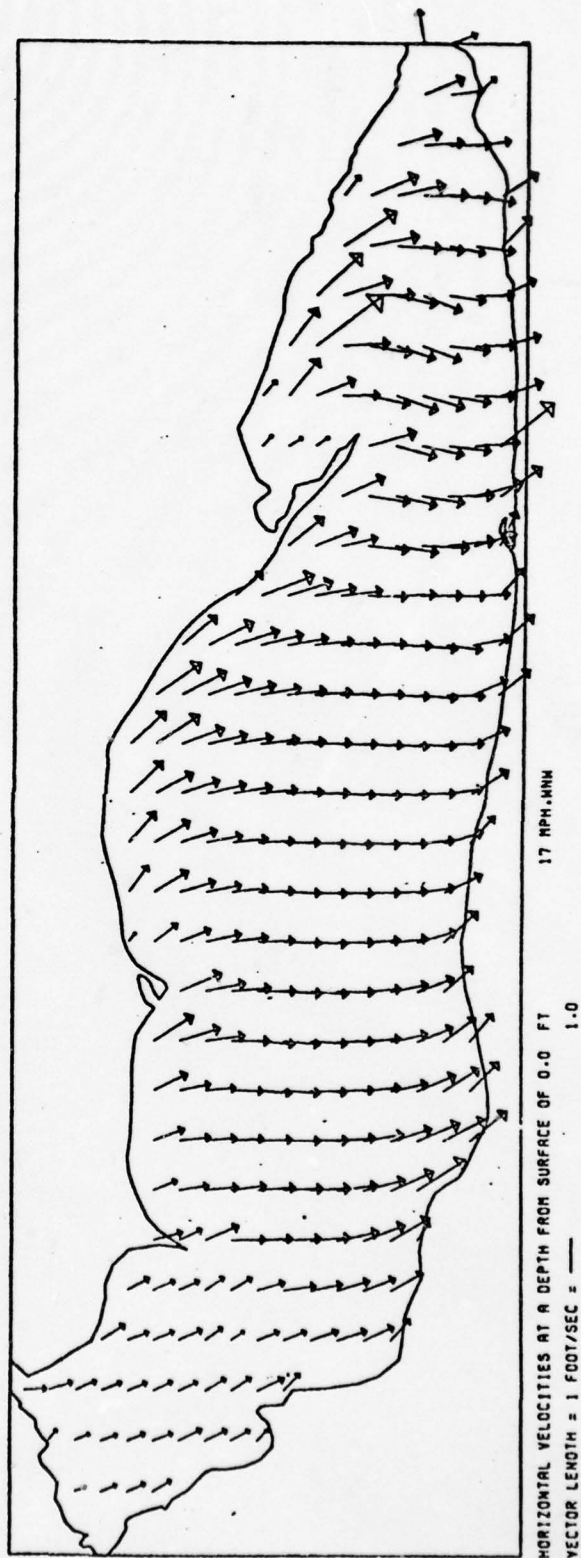


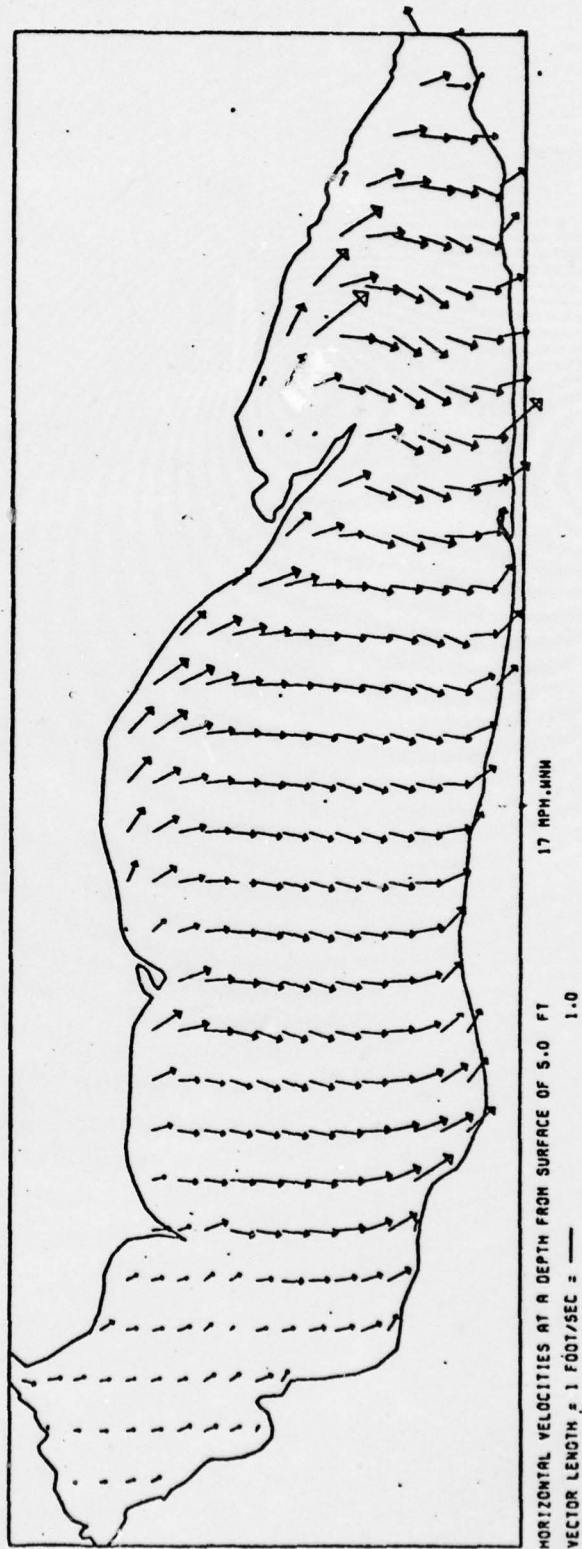
SYMBOLS
 0.050
 0.100
 0.200
 0.300
 0.400
 0.500
 0.600
 0.700
 0.800
 0.900
 1.000
 1.500
 2.000
 -0.050
 -0.100
 -0.200
 -0.300
 -0.400
 -0.500
 -0.600
 -0.700
 -0.800
 -0.900
 -1.000
 -1.500
 -2.000

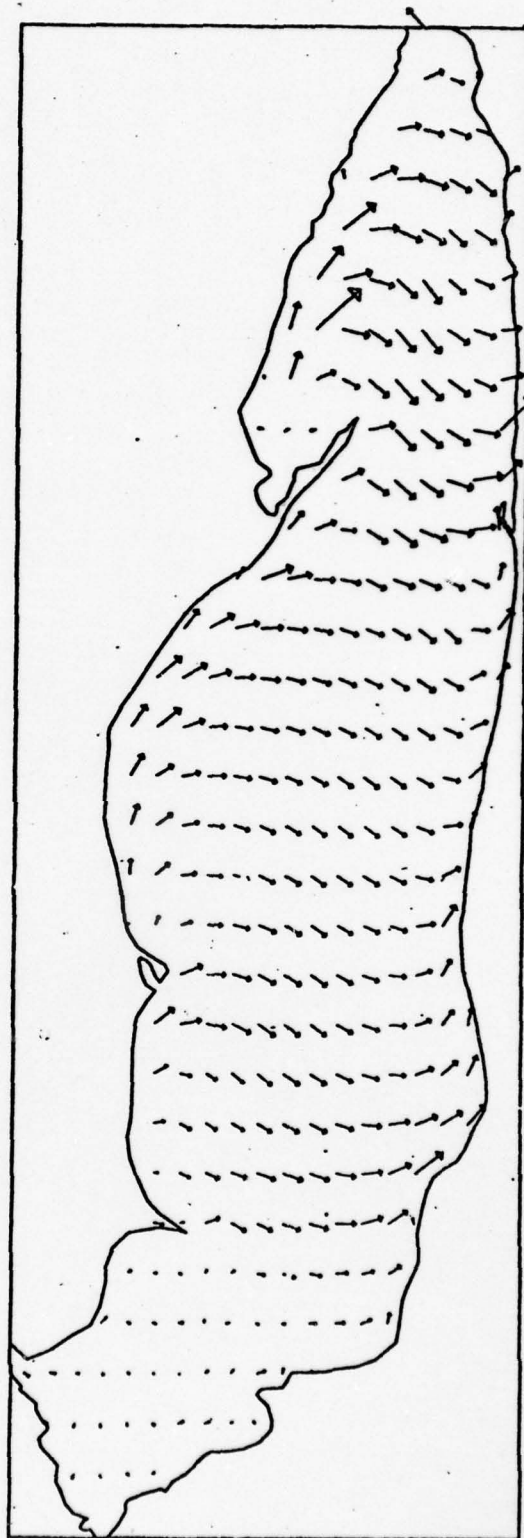
CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

M.D=30.M=17NNH

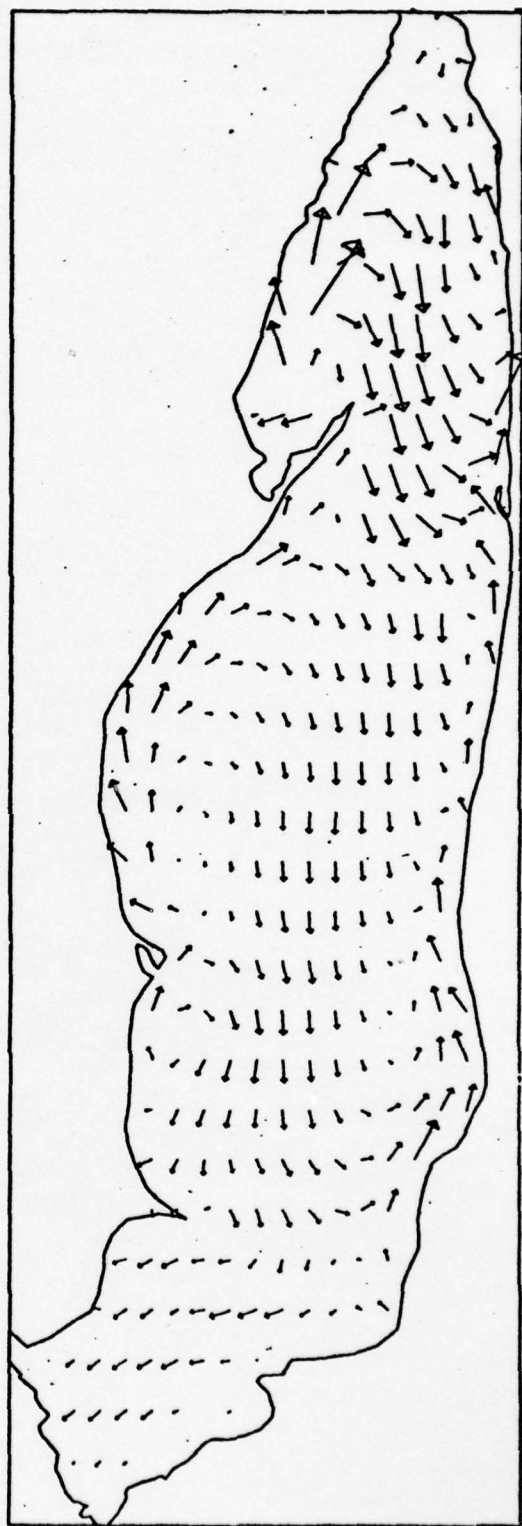








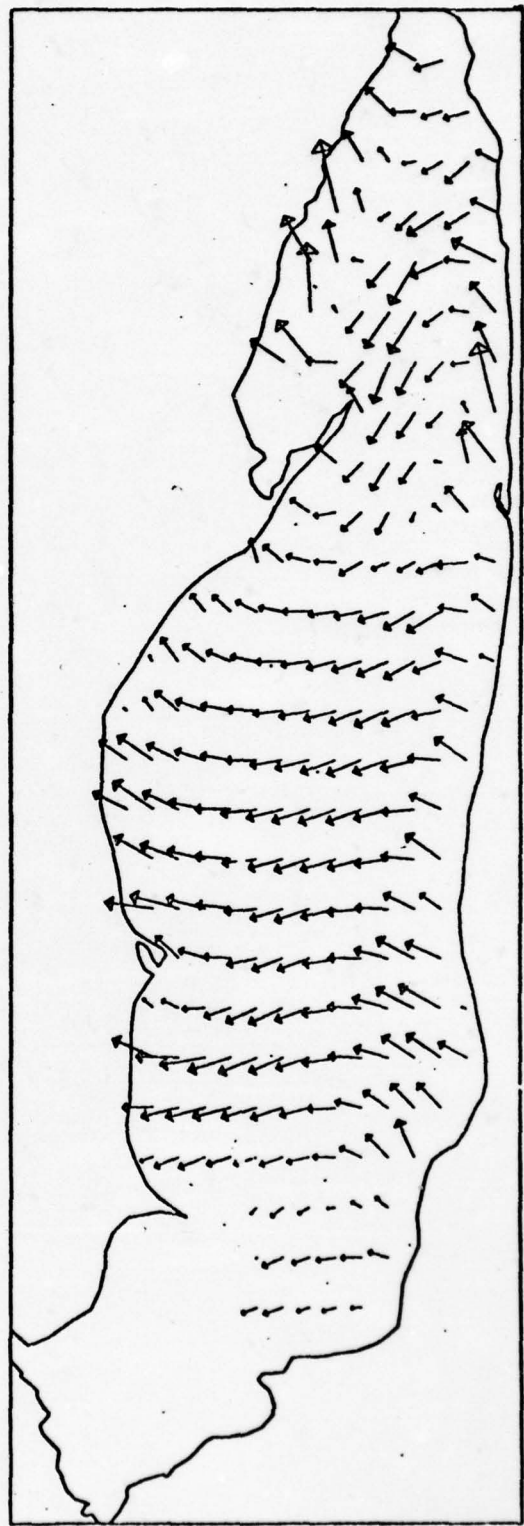
HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 10.0 FT
VECTOR LENGTH = 1 FOOT/SEC = — 1.0
17 MPH MIN



17 MPH.MMM

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 20.0 FT

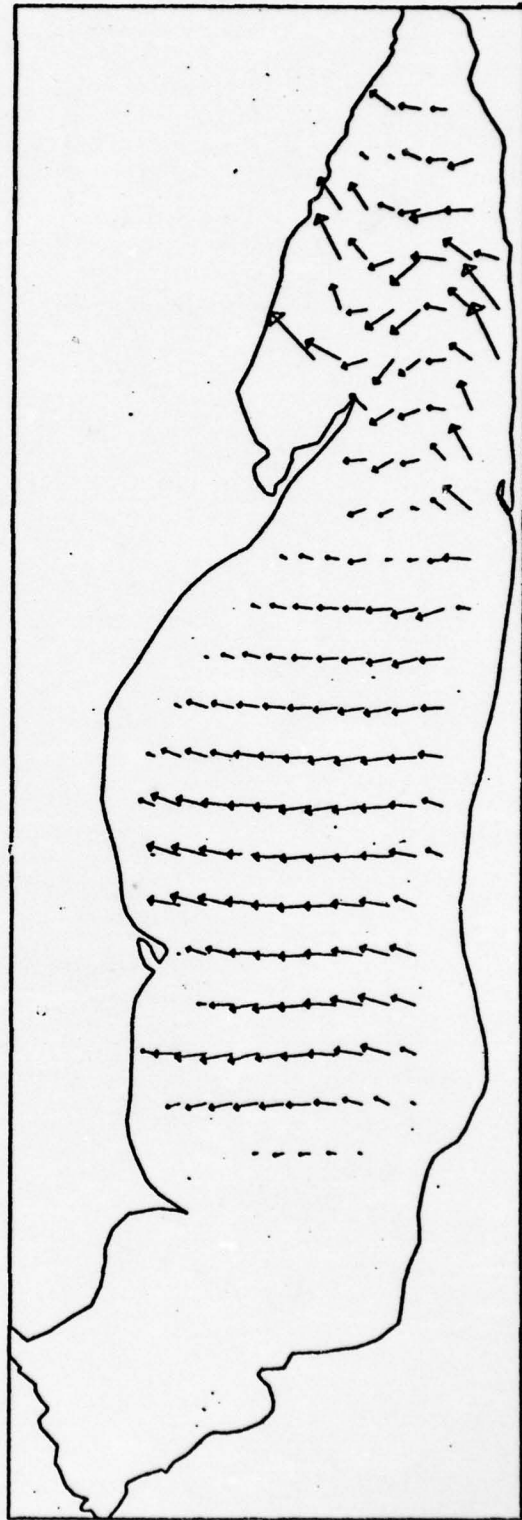
VECTOR LENGTH = 1 FOOT/SEC = 1.0



17 MPH.MMM

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 40.0 FT

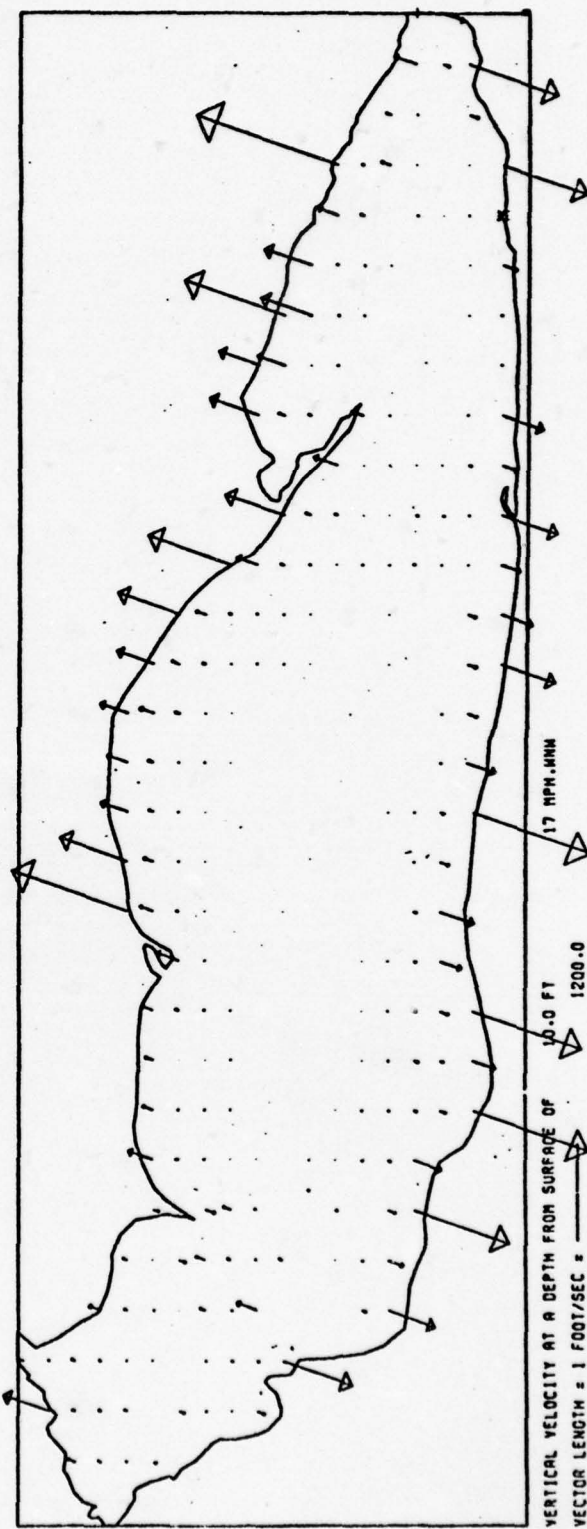
VECTOR LENGTH = 1 FOOT/SEC = 1.0

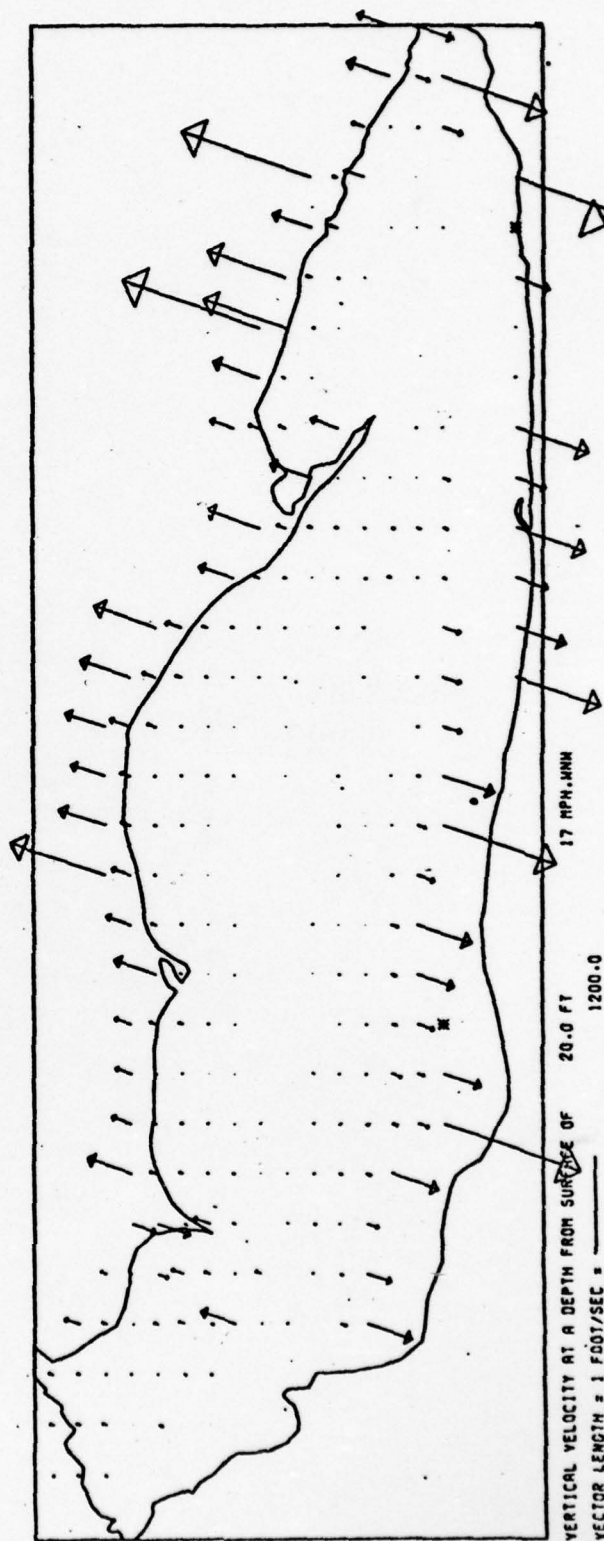


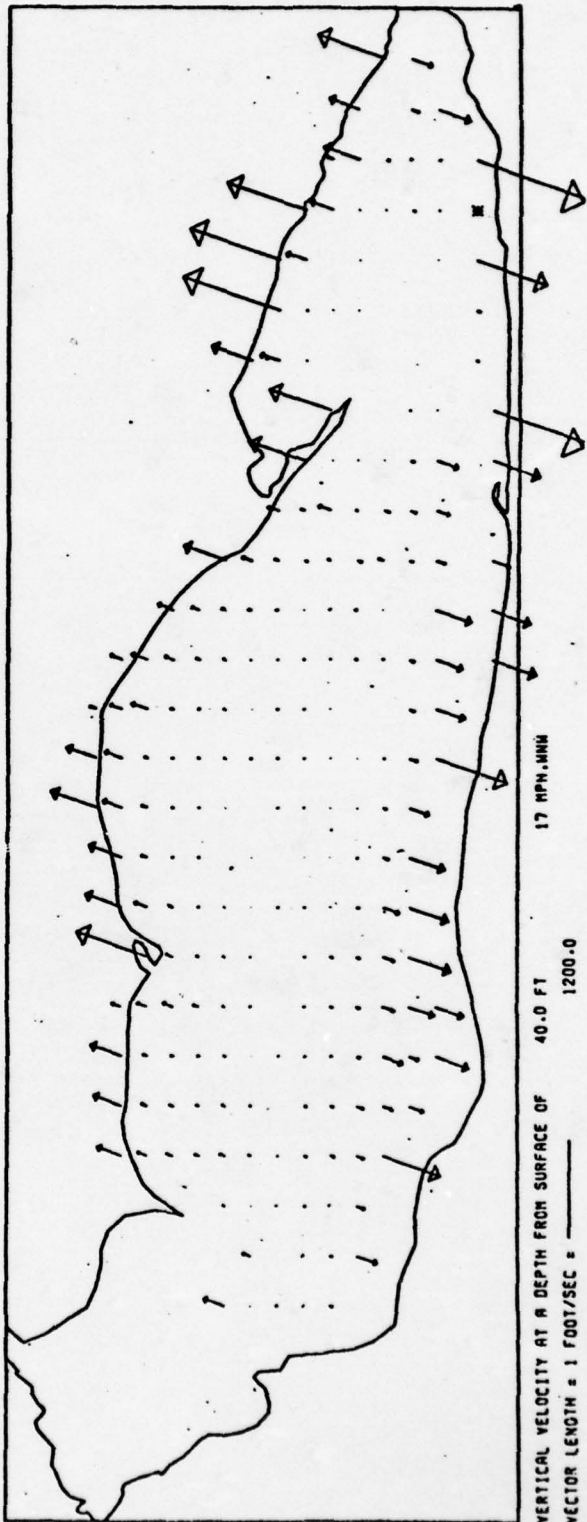
17 MPH-MIN

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 60.0 FT

VECTOR LENGTH = 1 FOOT/SEC = _____ 1.0

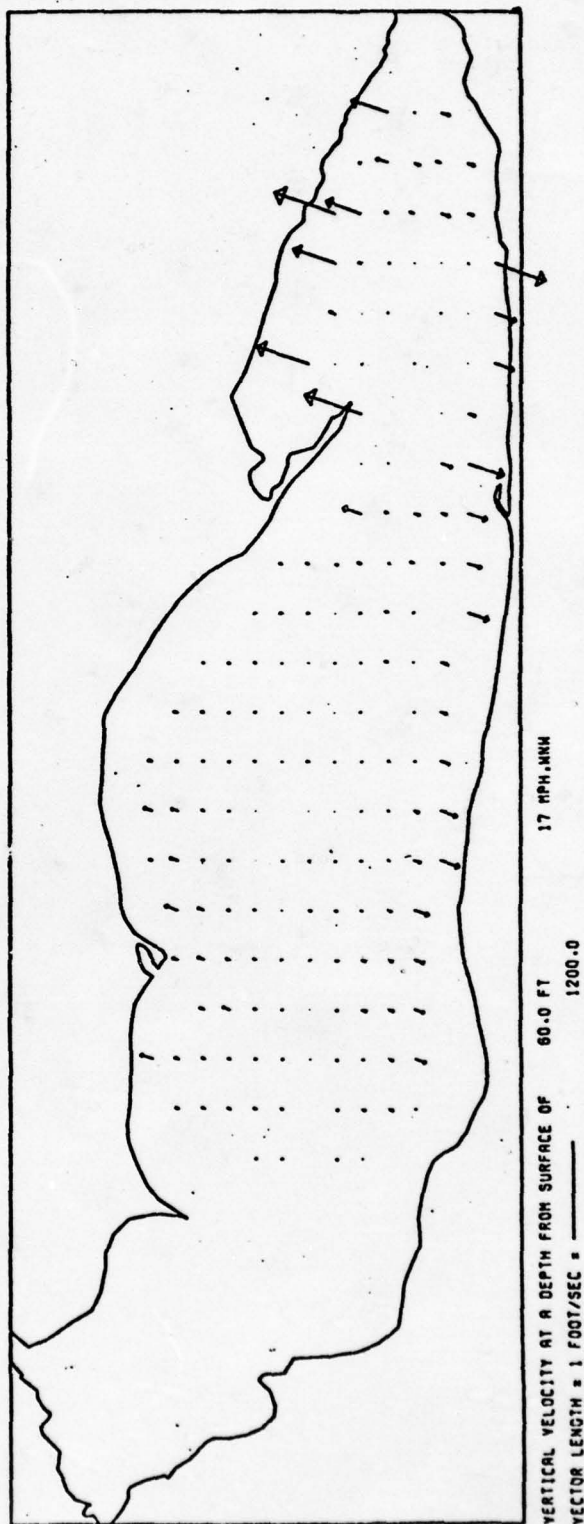


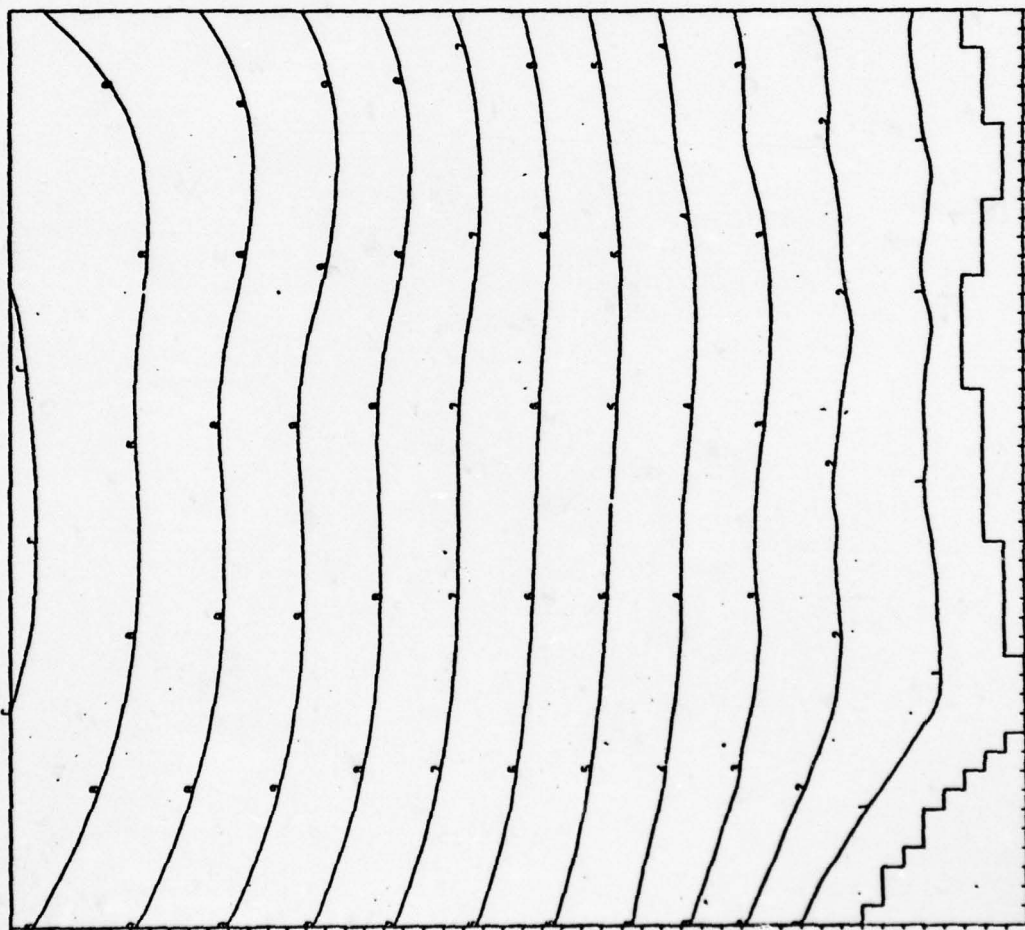




17 MPH.MHW

1200.0

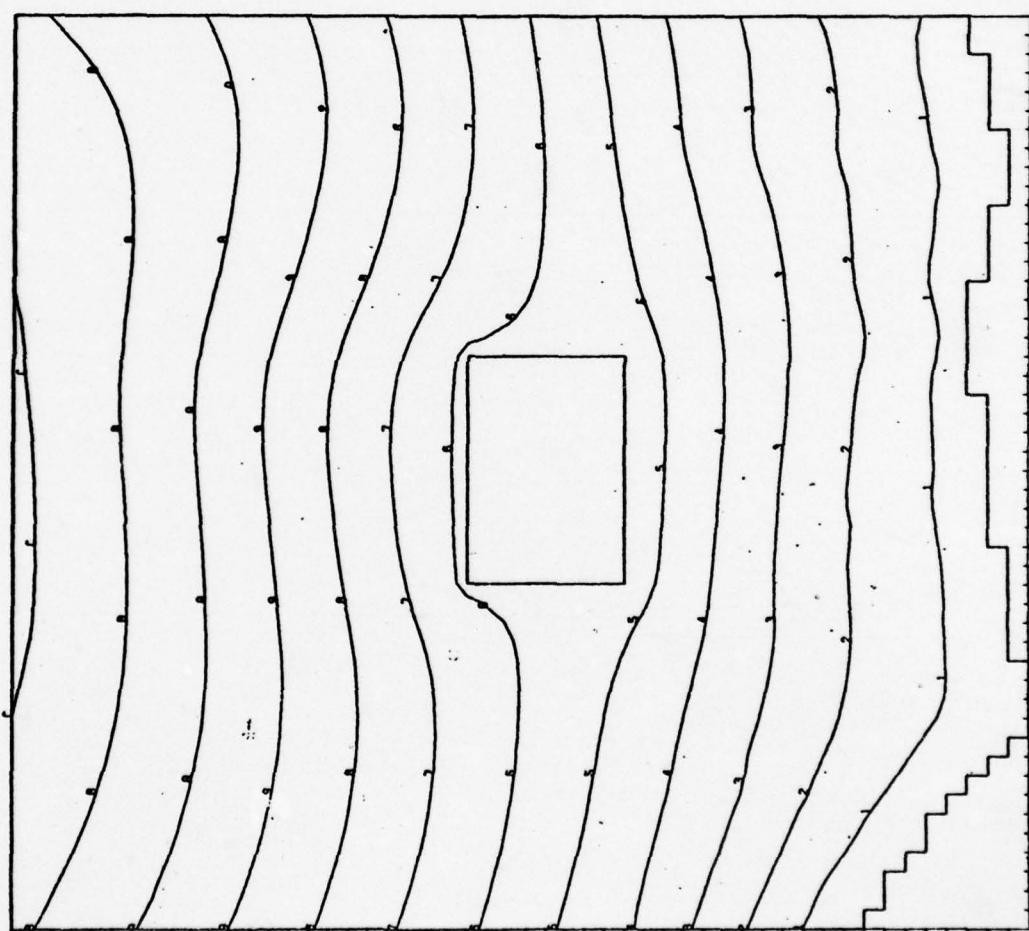




SYMBOLS
 1 2 3 4 5 6 7 8 9 10
 CONTOUR LEVELS
 0.100
 0.350
 0.600
 0.850
 1.100
 1.350
 1.600
 1.850
 2.100
 2.350
 2.600
 2.850

HA=17MPH.WNW

CONTOURS OF STREAM FUNCTION FOR LAKE ERIE -- NEARSHORE

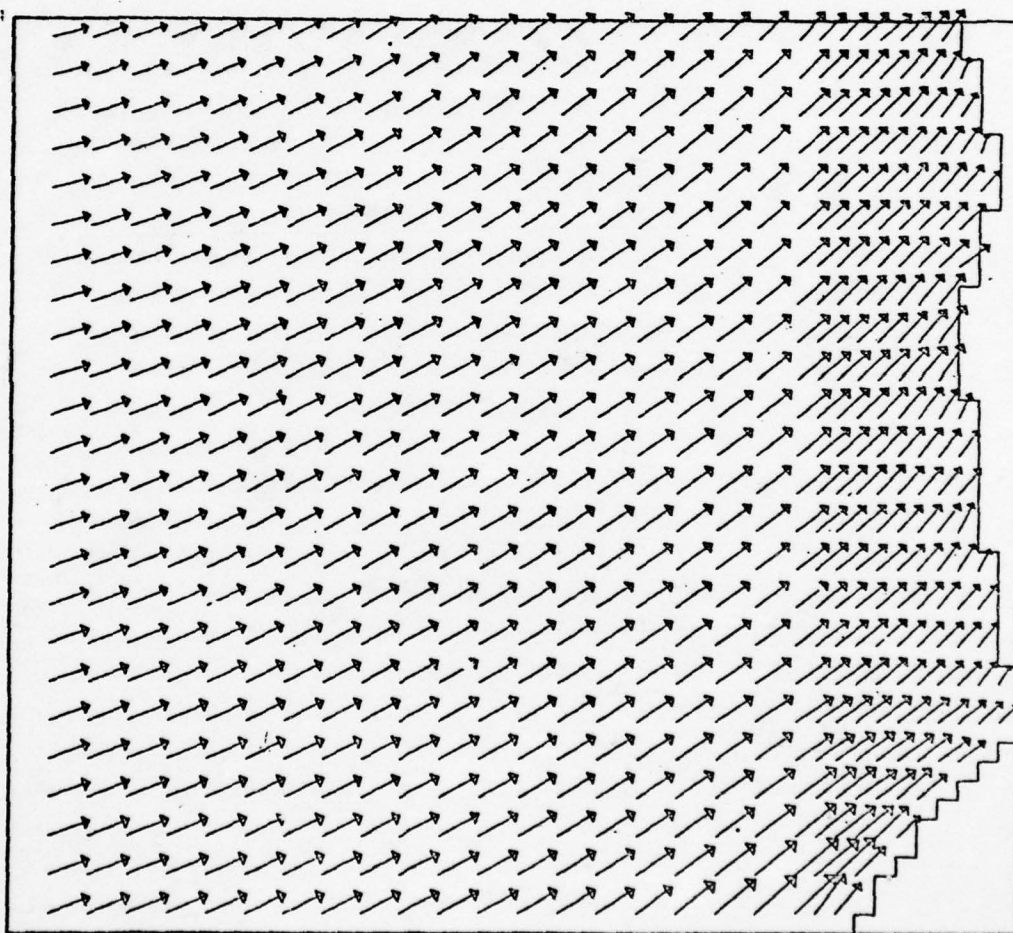


SYMBOLS
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

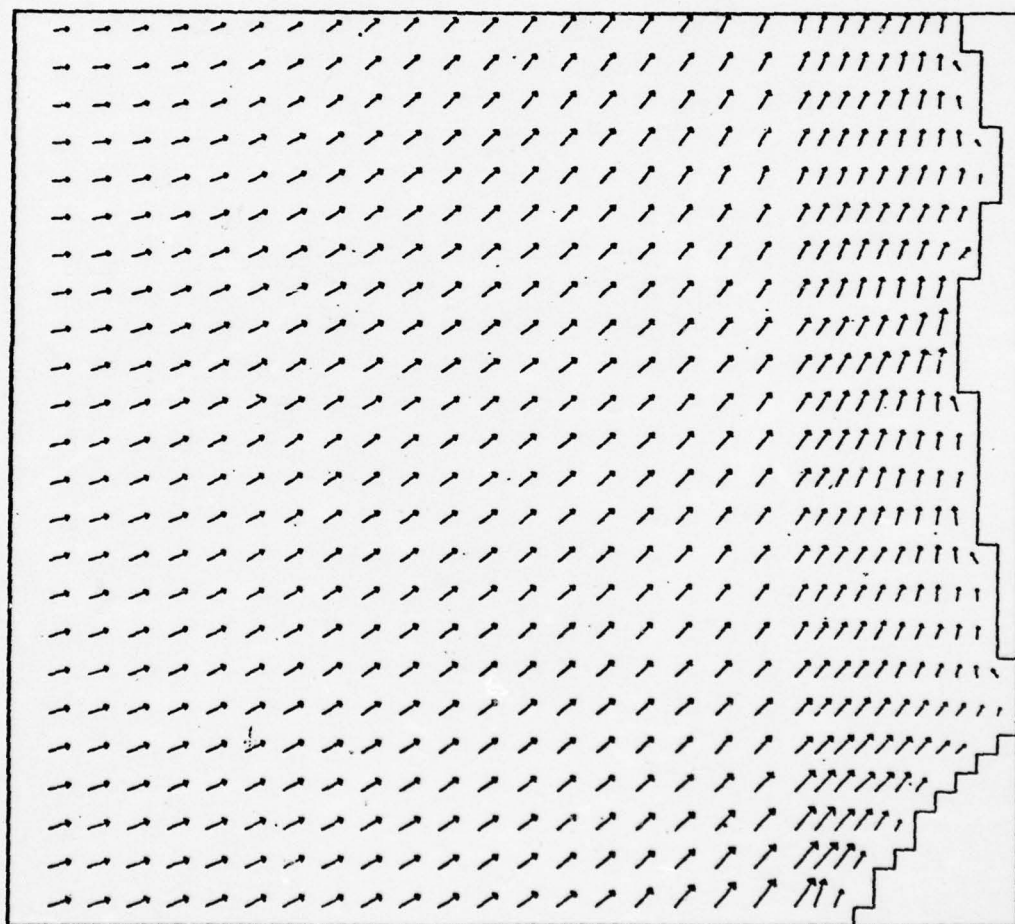
CONTOUR LEVELS
 0.100
 0.350
 0.600
 0.850
 1.100
 1.350
 1.600
 1.850
 2.100
 2.350
 2.600
 2.850

CONTOURS OF STREAM FUNCTION FOR LAKE ERIE -- NEARSHORE

WA=17MPH.HNW



HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 0.0 FT
VECTOR LENGTH = 1 FOOT/SEC = ——— 1.0
17 MPH/MM



17 MPH/MM

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 10.0 FT

VECTOR LENGTH = 1 FOOT/SEC = 1.0

AD-A036 242

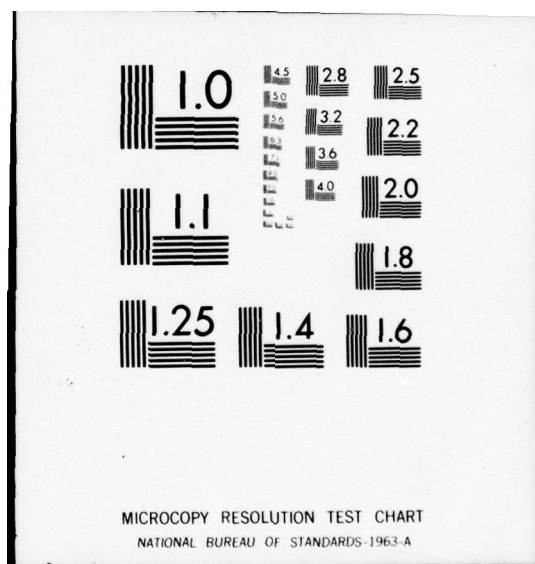
ARMY ENGINEER WATERWAYS EXPERIMENT STATION, VICKSBURG MISS F/G 1/5
LAKE ERIE INTERNATIONAL JETPORT MODEL FEASIBILITY INVESTIGATION--ETC(U)
FEB 76 D L DURHAM, H L BUTLER
WES-MP-H-76-3-7

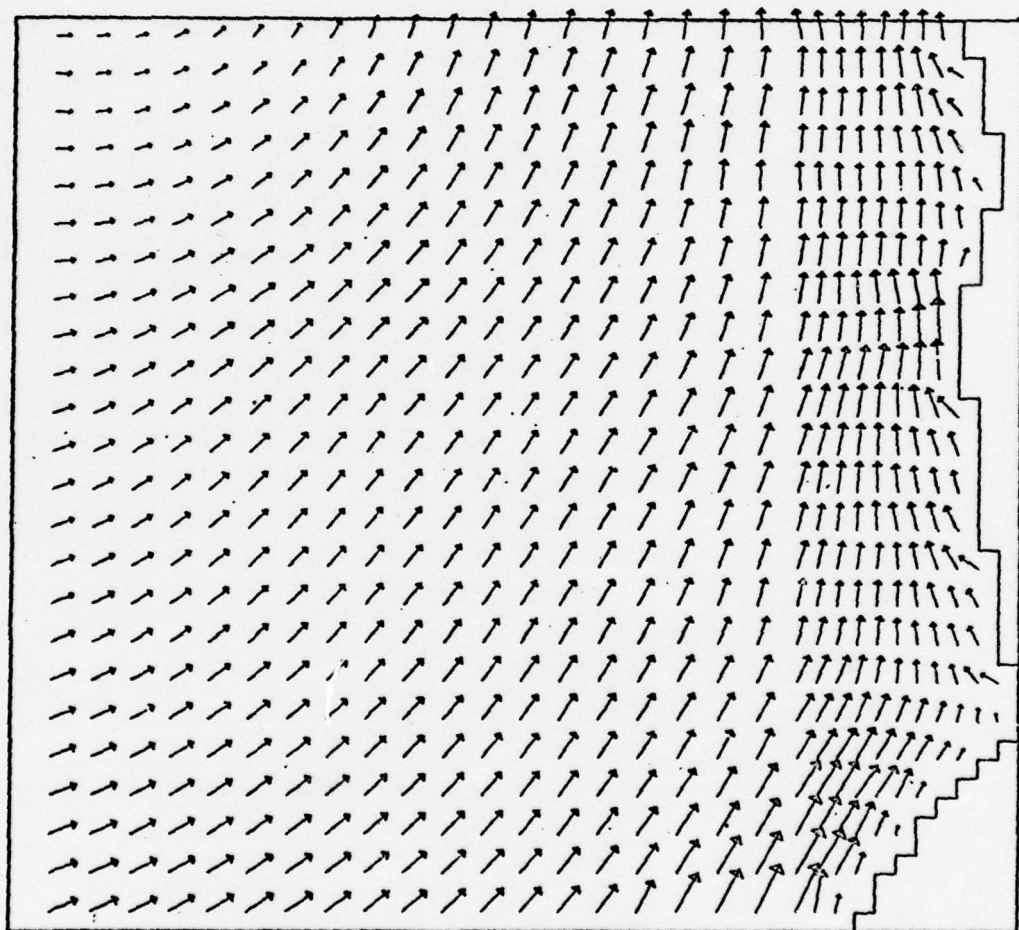
UNCLASSIFIED

NL

5 of 8
ADA036242



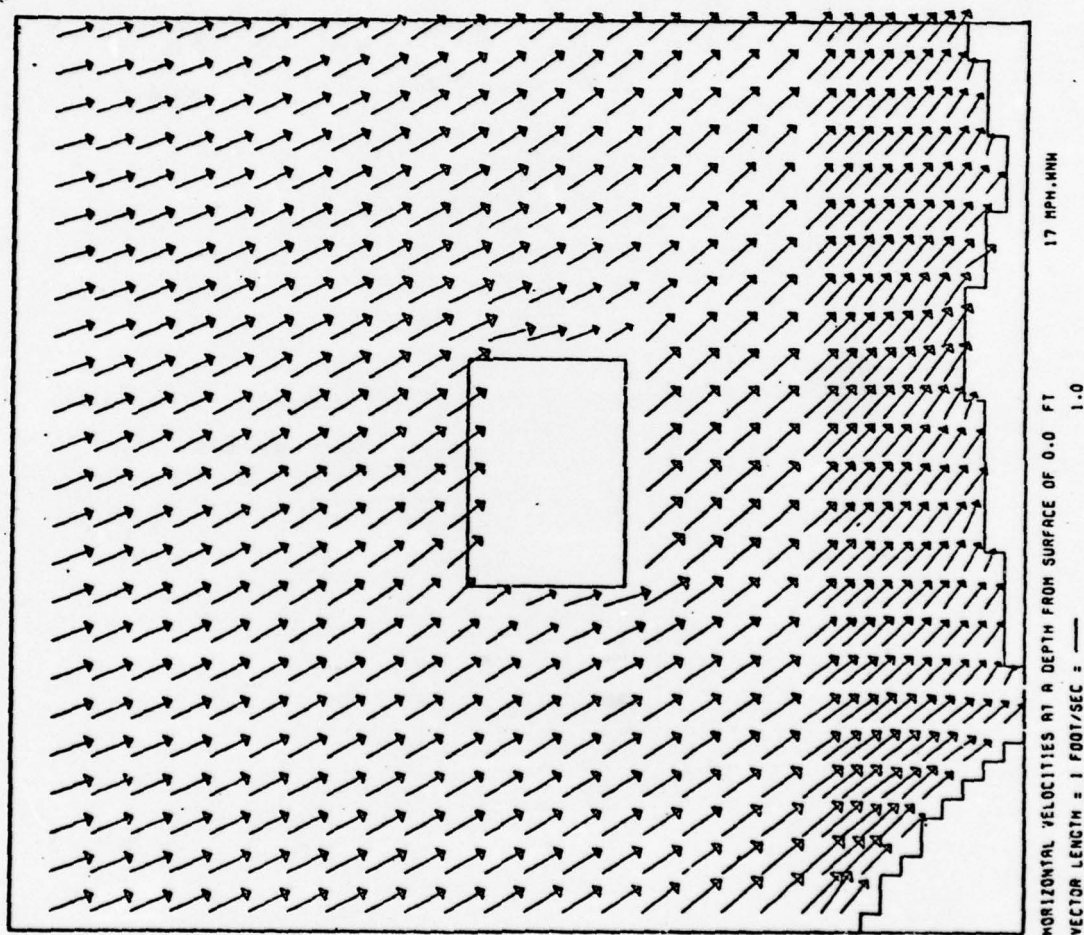


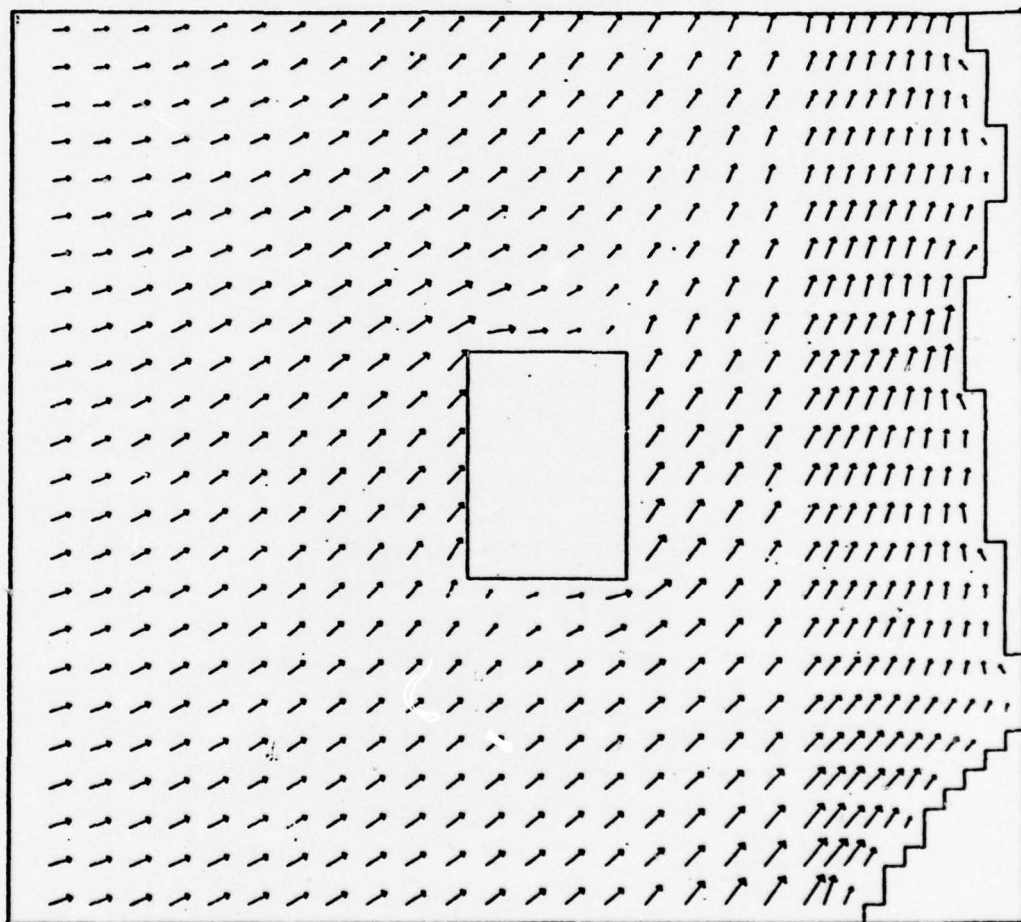


17 MPH.MNH

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 15.0 FT

VECTOR LENGTH = 1 FOOT/SEC = 1.0



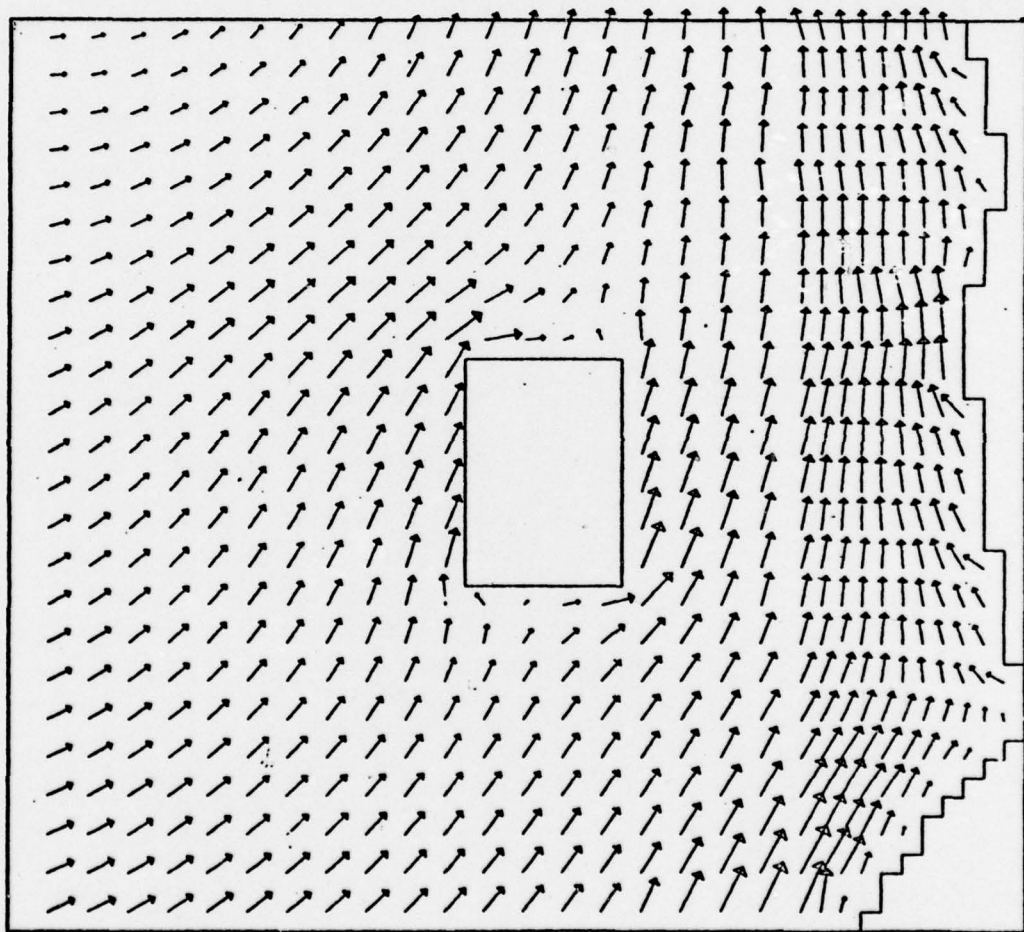


17 MPH.MNH

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 10.0 FT

1.0

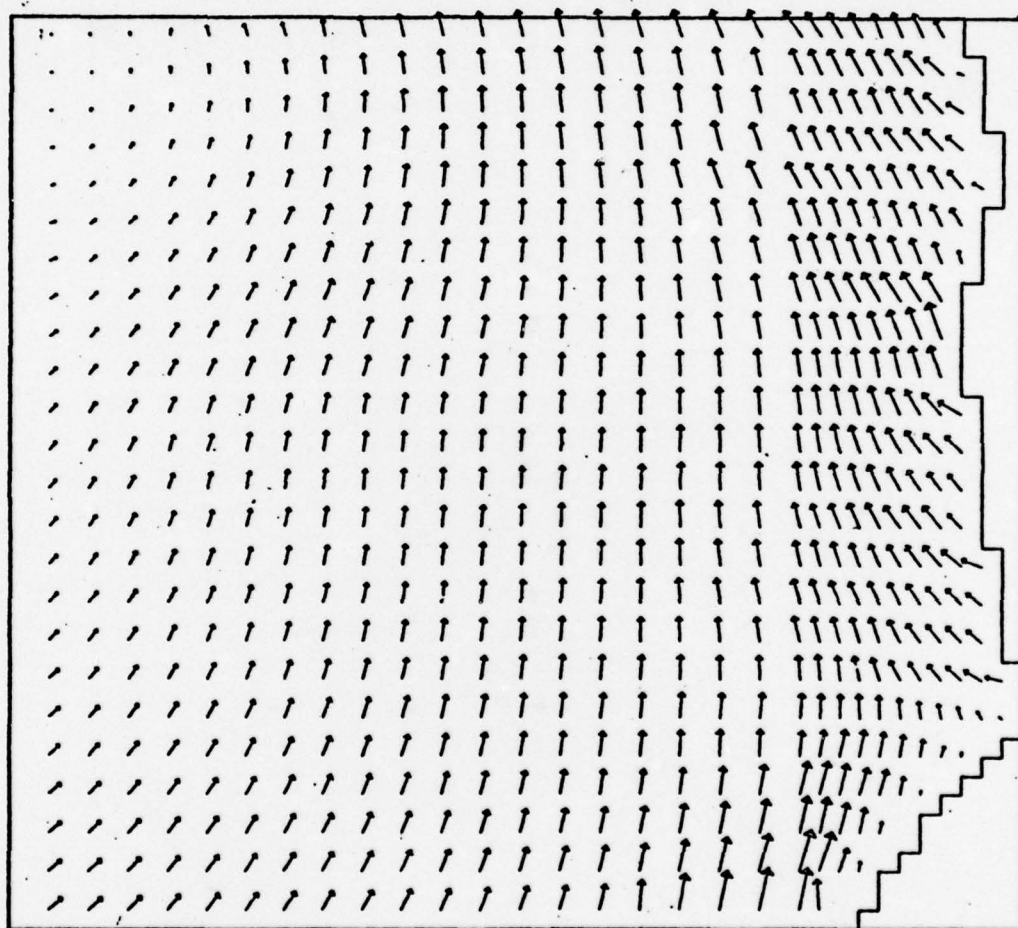
VECTOR LENGTH = 1 FOOT/SEC = —



17 MPH.MNH

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 15.0 FT

VECTOR LENGTH = 1 FOOT/SEC = 1.0

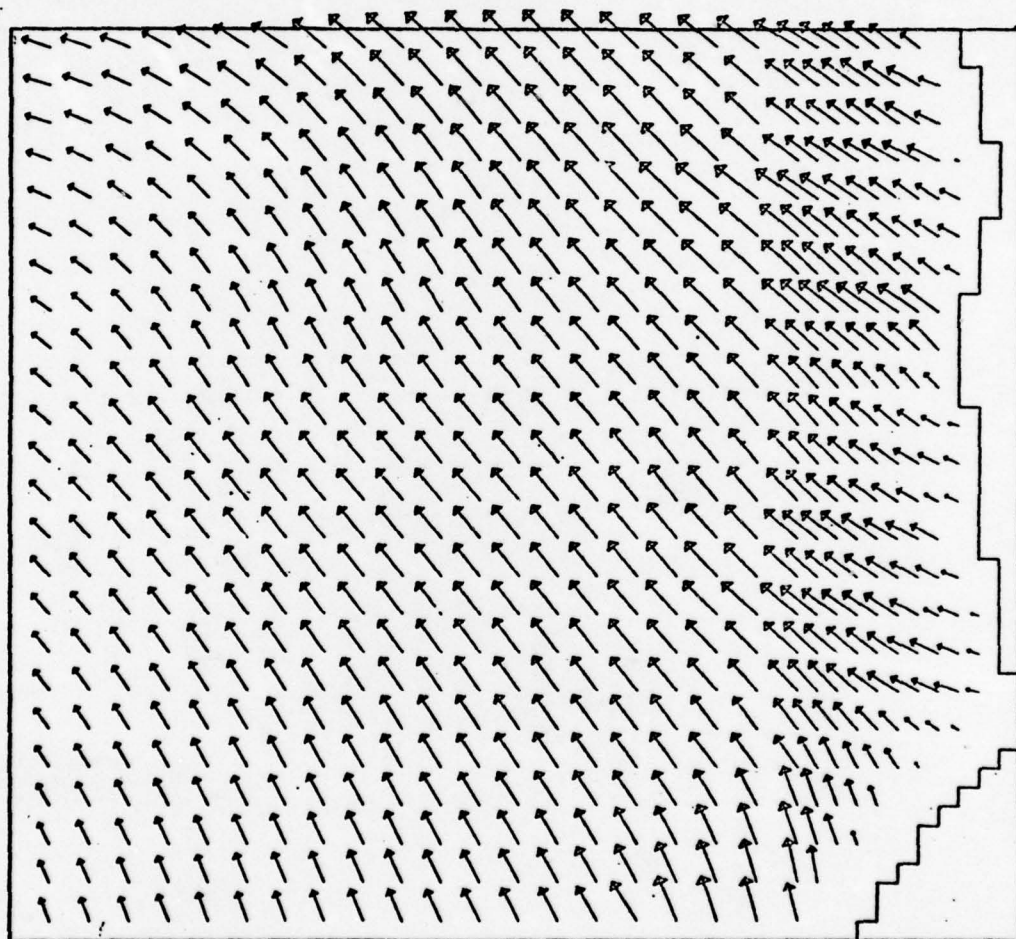


17 MPH.MMM

20.0 FT

1.0

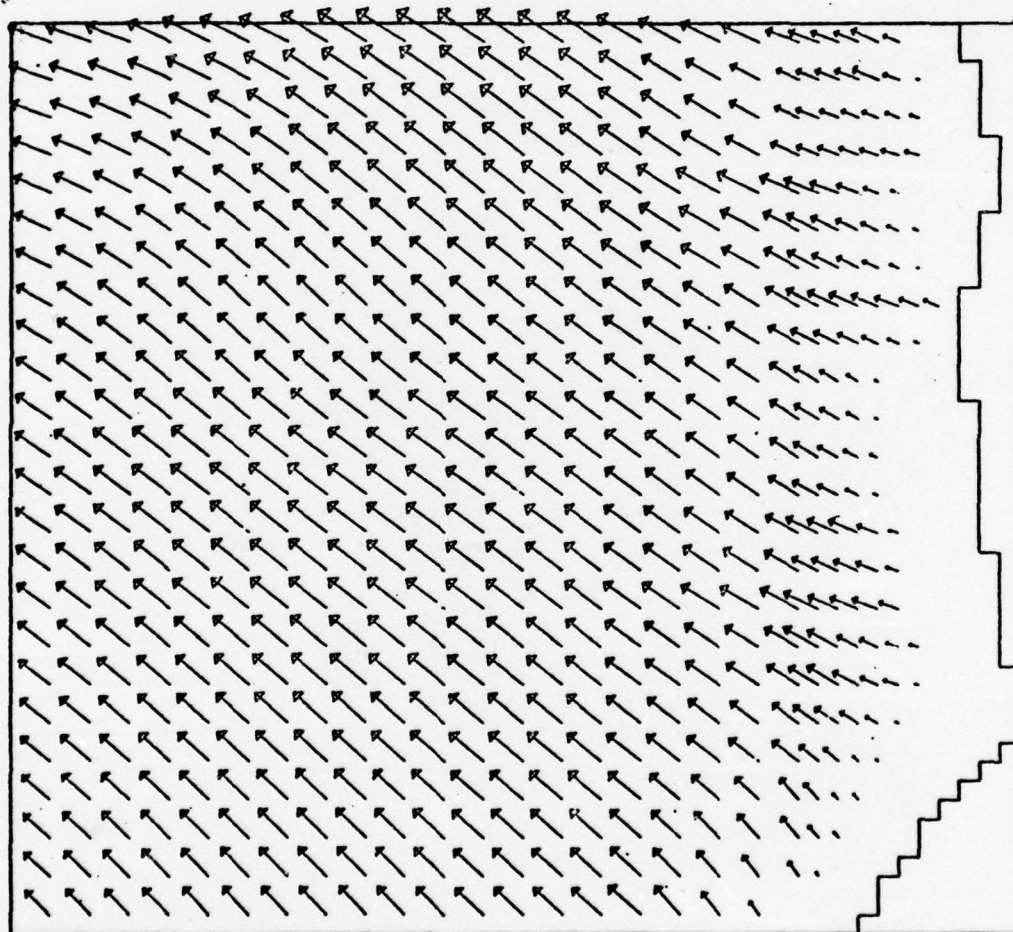
HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 20.0 FT
VECTOR LENGTH = 1 FOOT/SEC =



17 MPH-MIN

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 30.0 FT

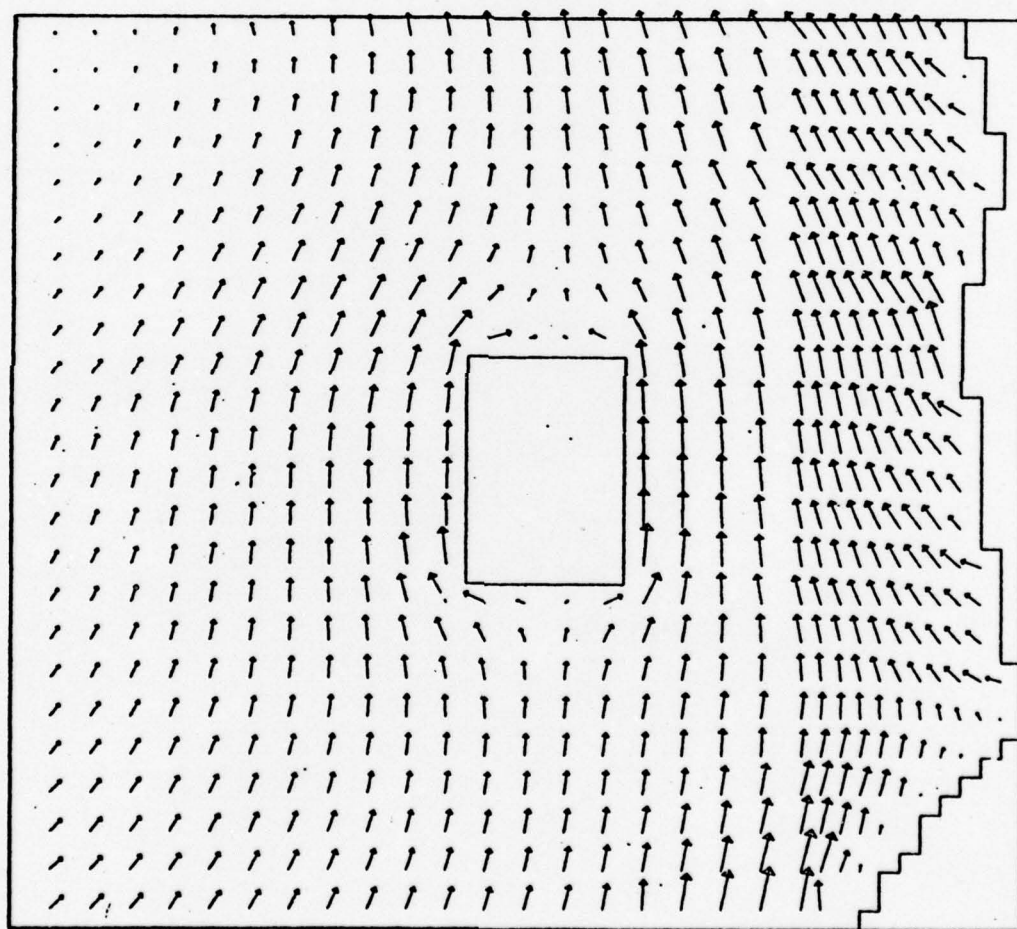
VECTOR LENGTH = 1 FOOT/SEC = 1.0



17 MPH-MIN

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 40.0 FT

VECTOR LENGTH = 1 FOOT/SEC = 1.0

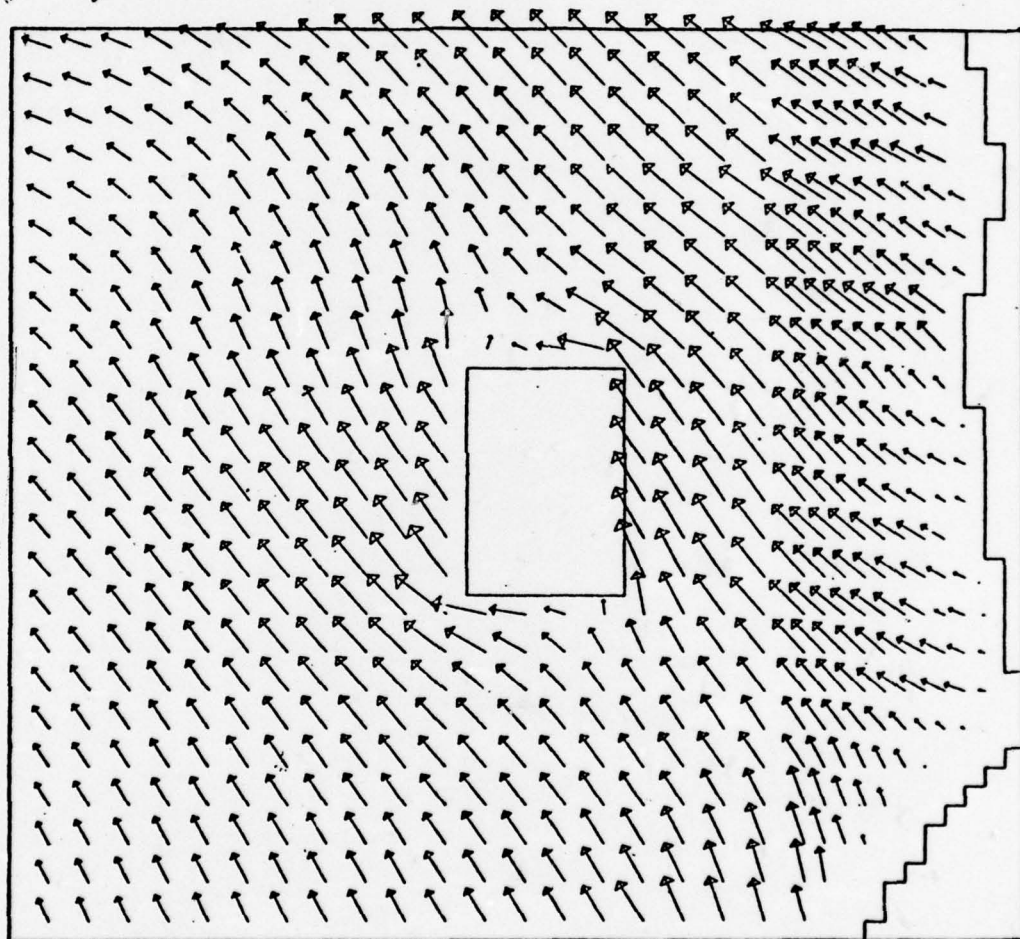


17 MPH.NNW

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 20.0 FT

1.0

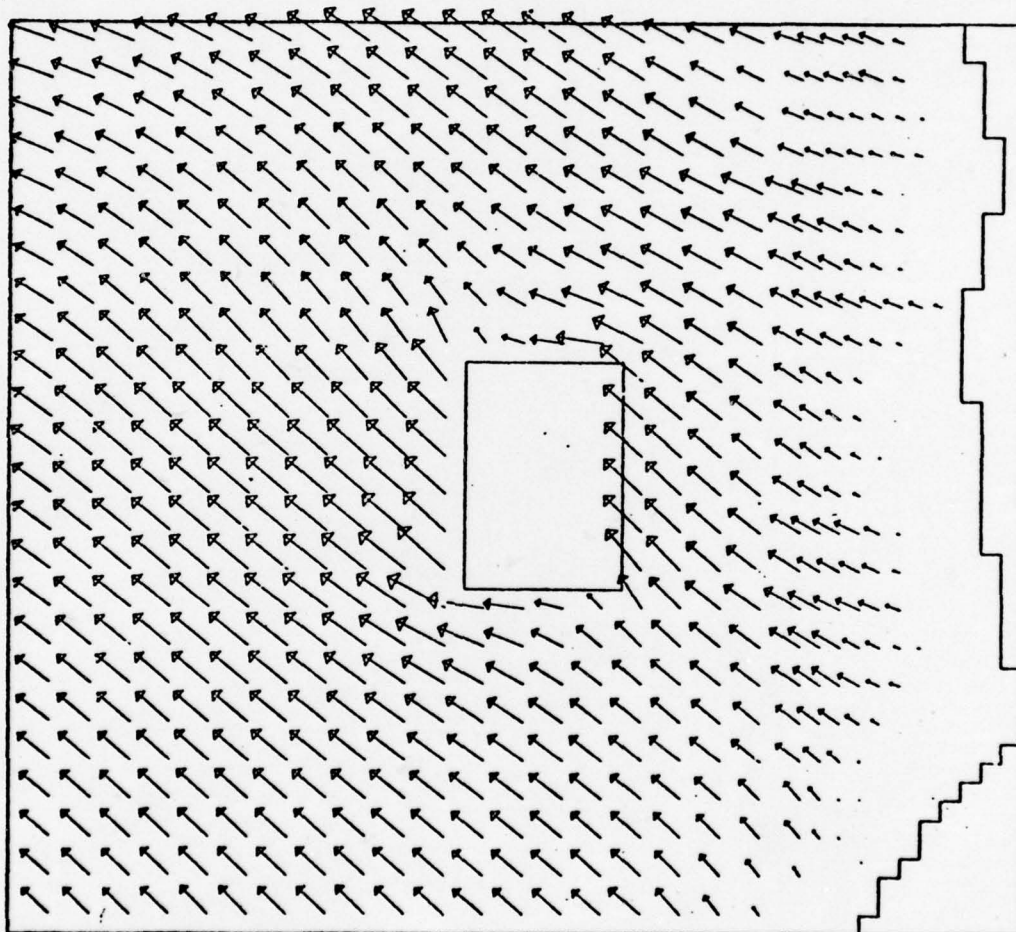
VECTOR LENGTH = 1 FOOT/SEC = _____



17 MPH-MMM

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 30.0 FT

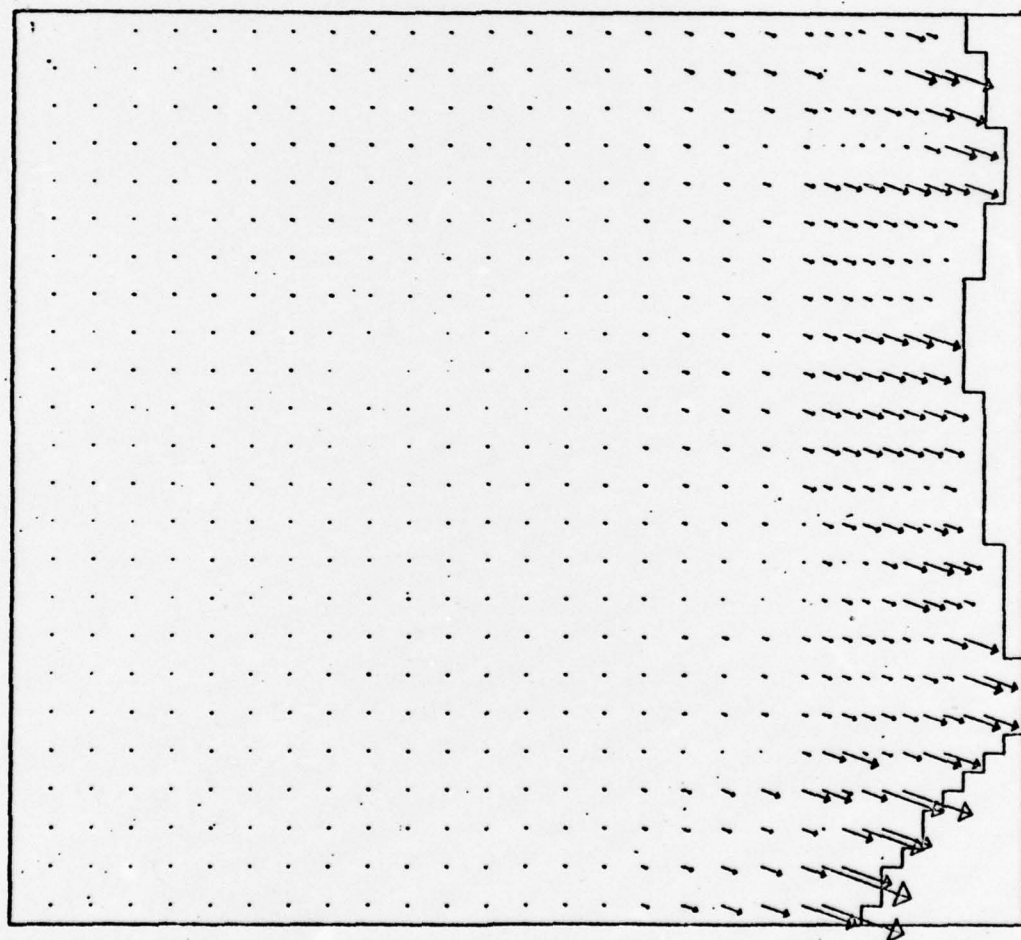
VECTOR LENGTH = 1 FOOT/SEC = 1.0



17 MPH.NNH

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 40.0 FT

VECTOR LENGTH = 1 FOOT/SEC = 1.0



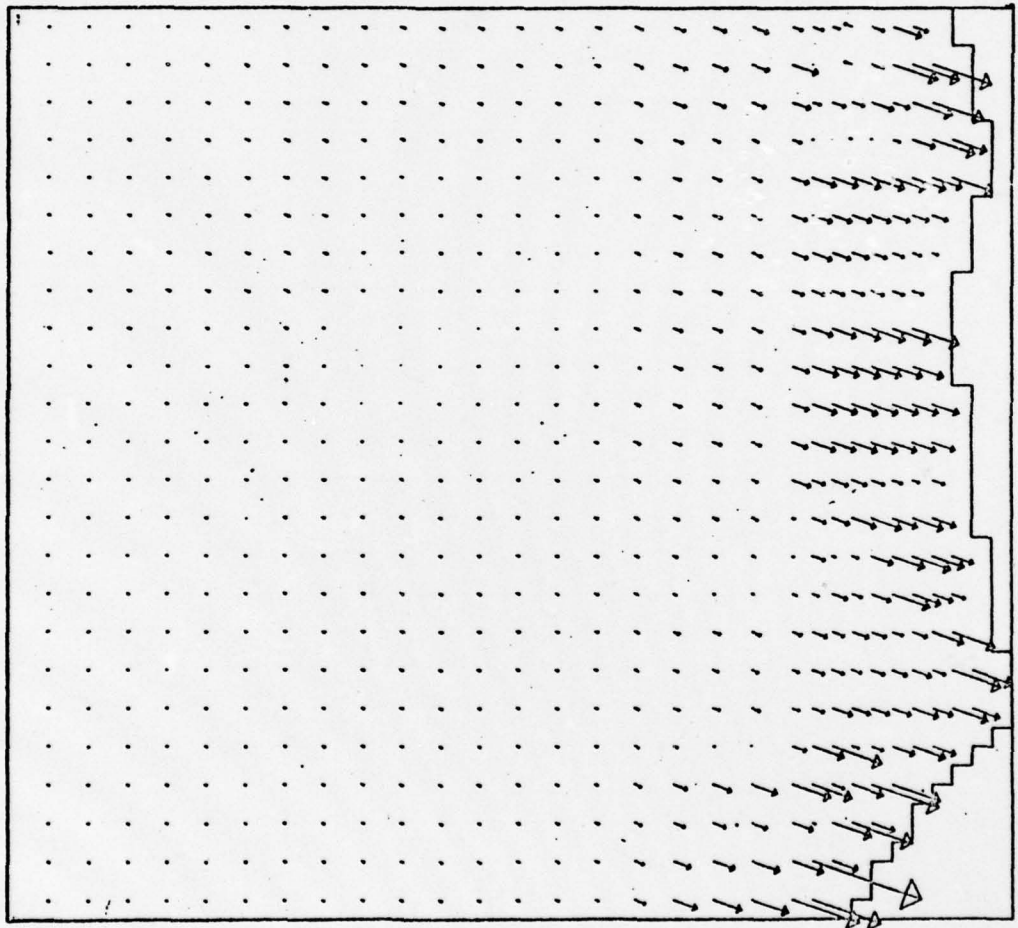
17 MPH-MIN

10.0 FT

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

VECTOR LENGTH = 1 FOOT/SEC =

500.0



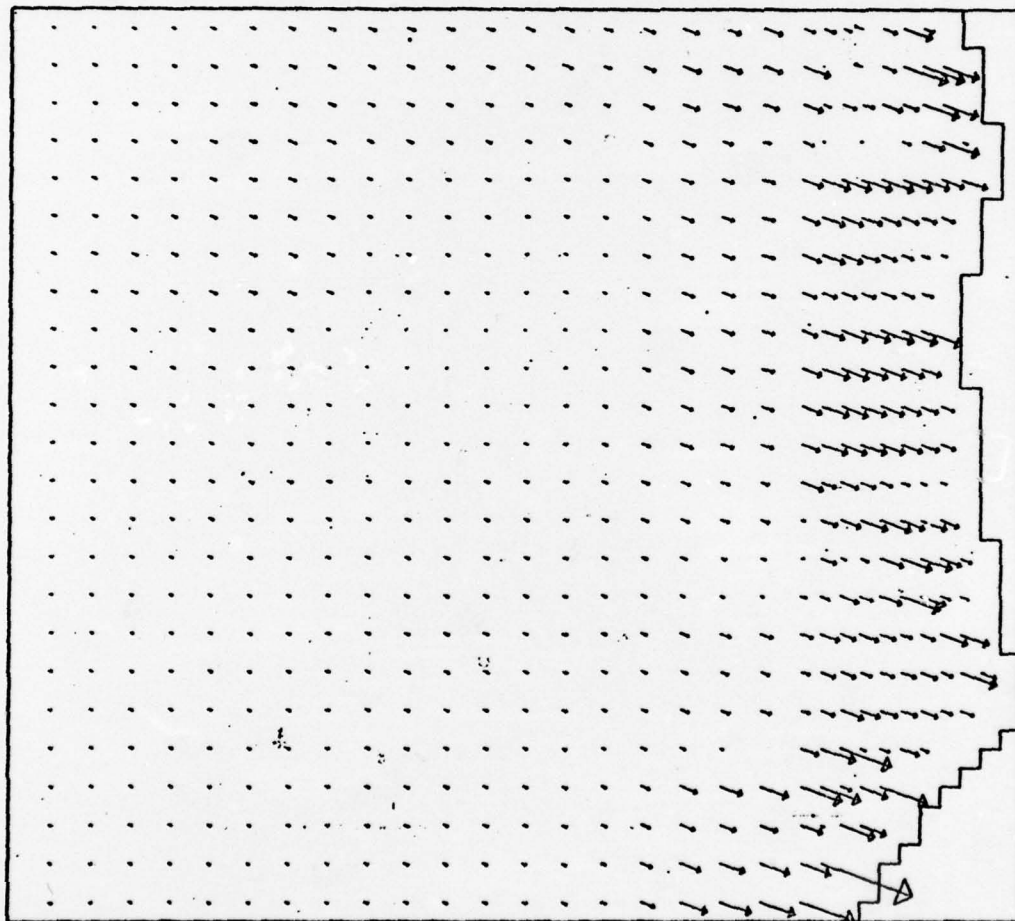
17 MPH.MNH

20.0 FT

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

VECTOR LENGTH = 1 FOOT/SEC =

500.0



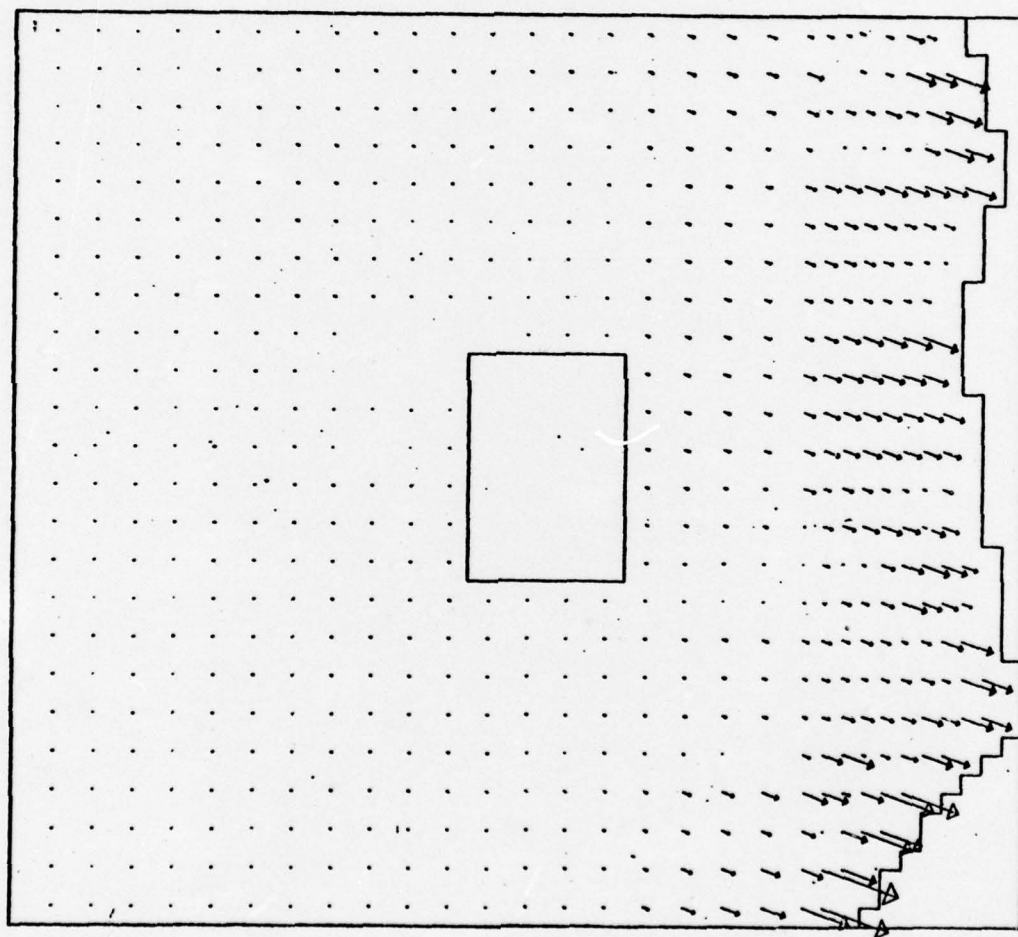
17 MPH.MMM

30.0 FT

500.0

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

VECTOR LENGTH = 1 FOOT/SEC =



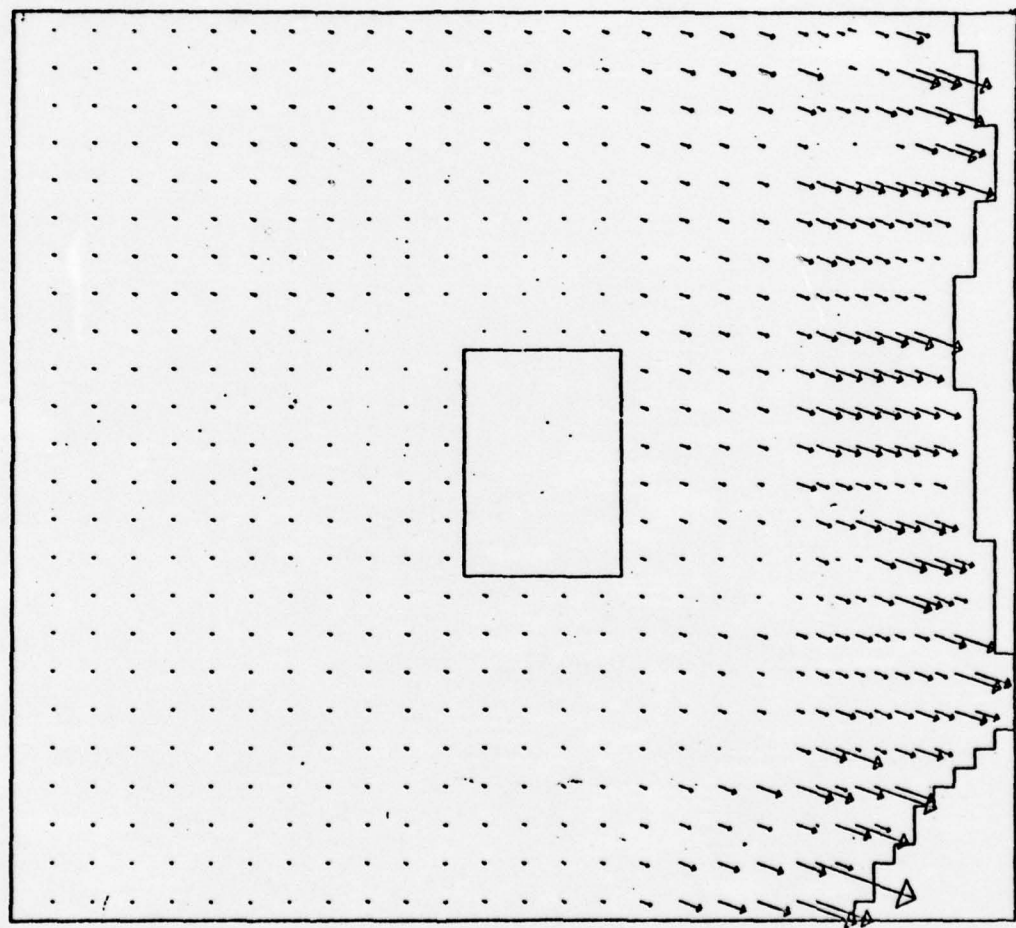
17 MPH>NNH

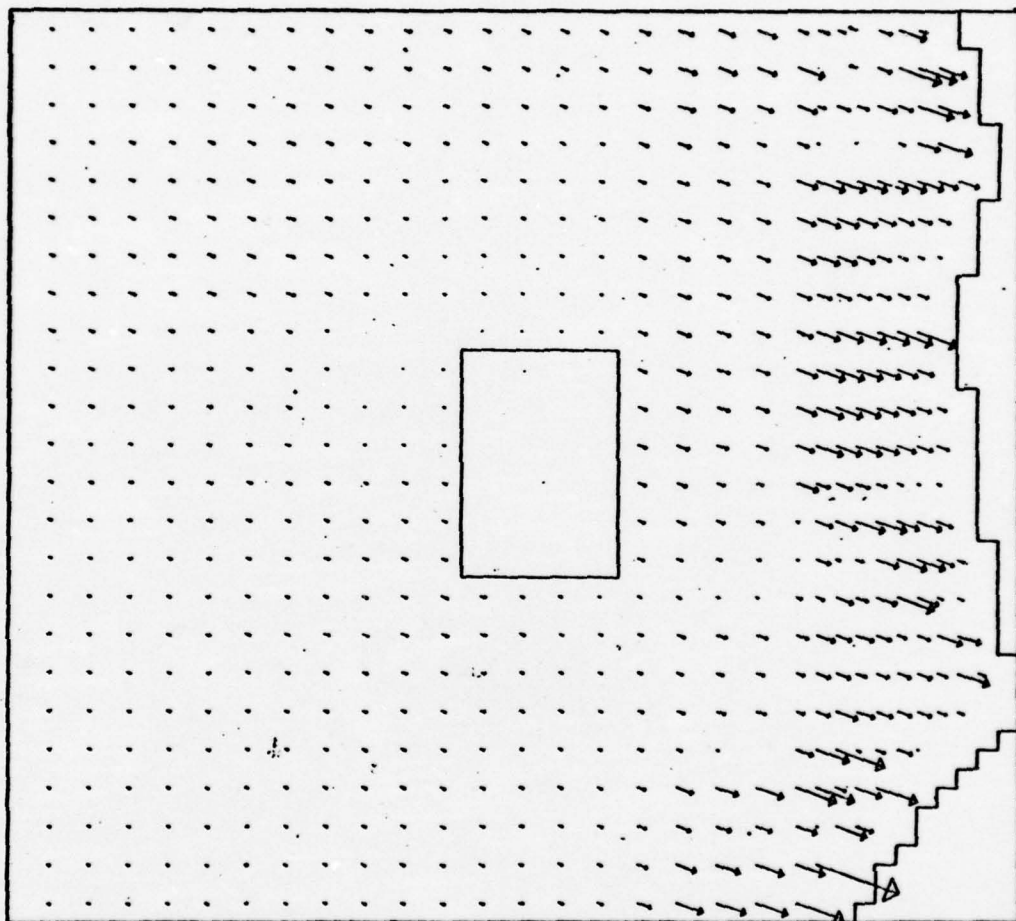
10.0 FT

500.0

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

VECTOR LENGTH = 1 FOOT/SEC =





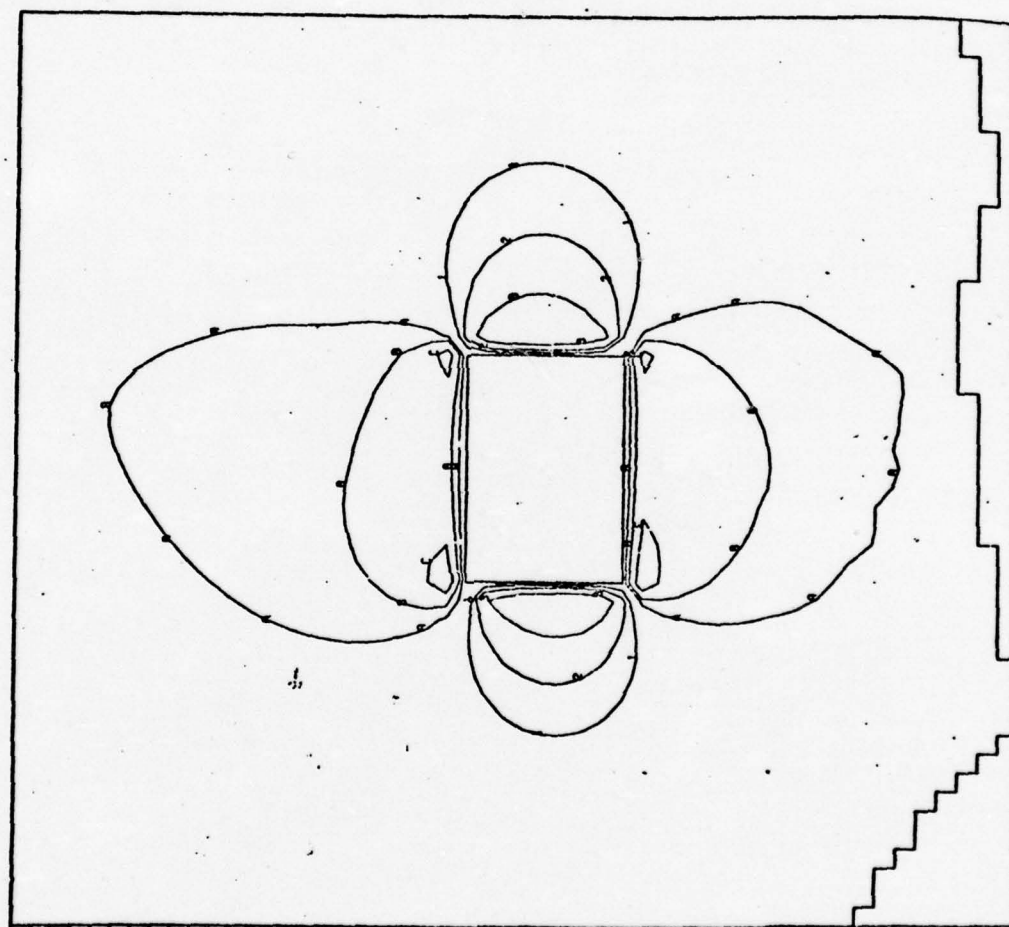
17 NPM-MNN

30.0 FT

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

500.0

VECTOR LENGTH = 1 FOOT/SEC =



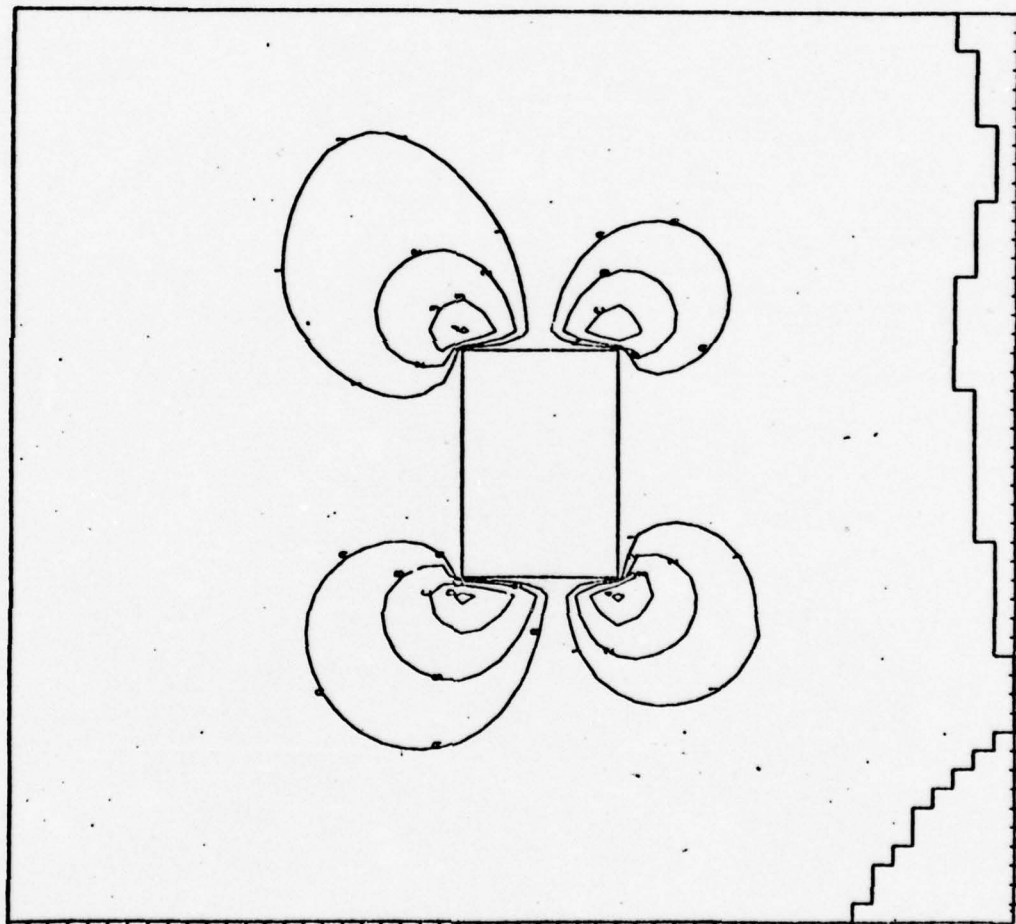
CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

SYMBOLS	CONTOUR LEVELS
1	0.050
2	0.100
3	0.200
4	0.400
5	0.600
6	0.800
7	1.000
8	1.500
9	2.000
A	-0.050
B	-0.100
C	-0.200
D	-0.400
E	-0.600
F	-0.800
G	-1.000
H	-1.500
I	-2.000

SYMBOLS

CONTOUR LEVELS

0.050
0.100
0.200
0.400
0.800
1.000
1.500
2.000
-0.050
-0.100
-0.200
-0.400
-0.800
-1.000
-1.500
-2.000

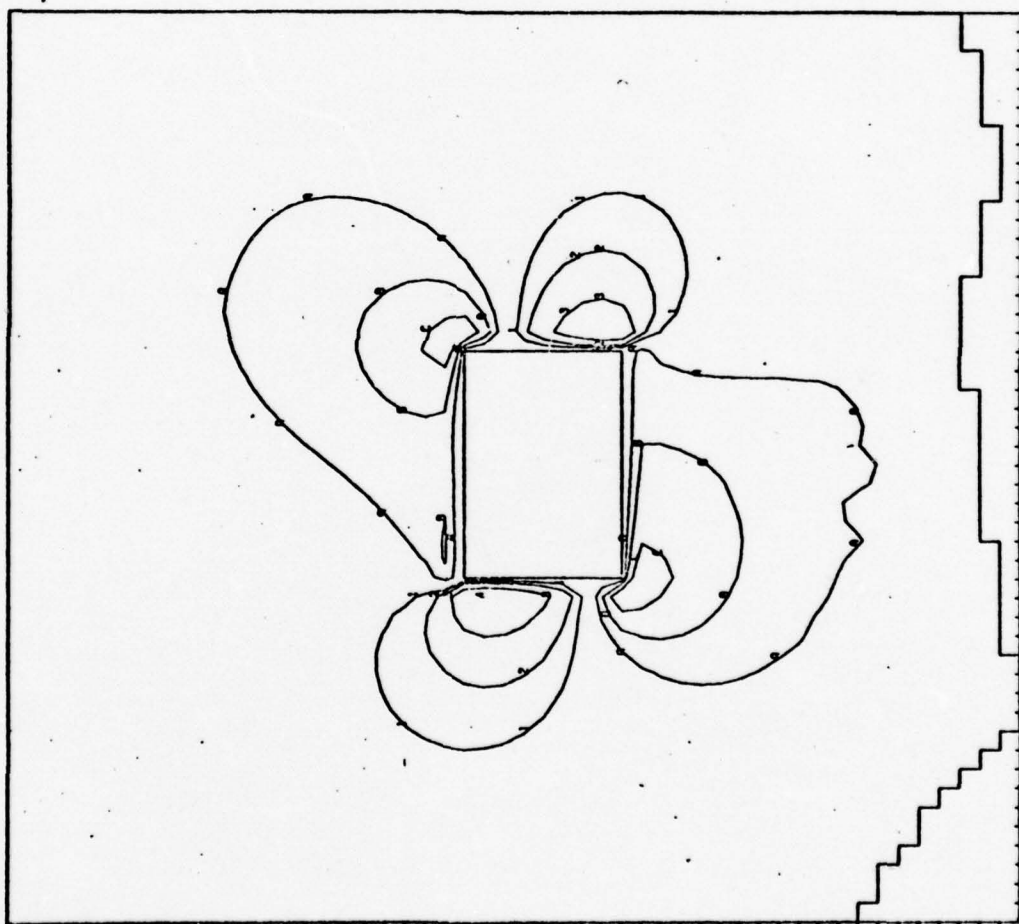


CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

V.D=0, H=17MM

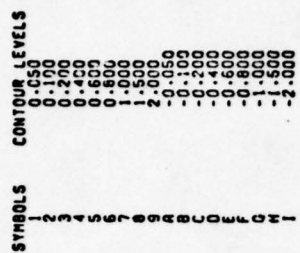
SYMBOLS

0.050
0.100
0.200
0.400
0.600
0.900
1.000
1.500
2.000
-0.050
-0.100
-0.200
-0.400
-0.600
-0.800
-1.000
-1.500
-2.000



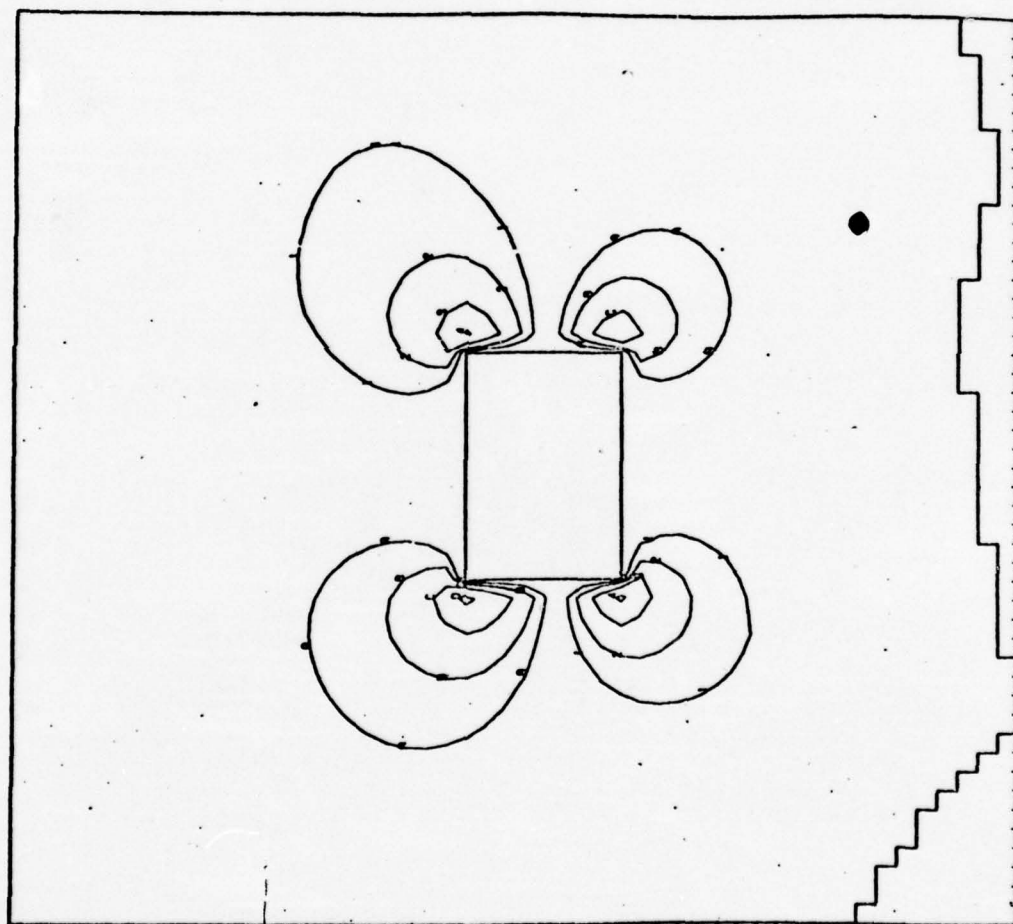
CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

$$M.O = 0. W = 17 \text{ MNM}$$



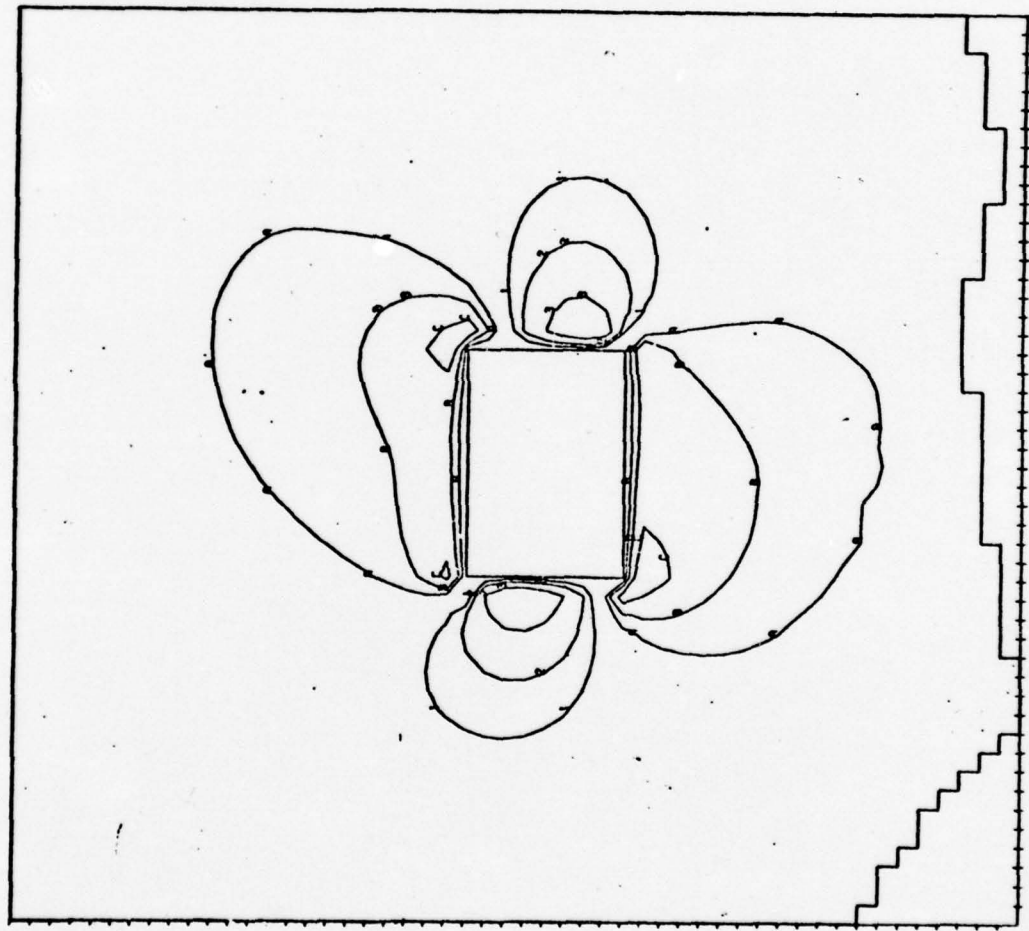
CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

U.D=15.W=17WNW



W.D: 15.4.1-2-40

SYMBOLS	CONTOUR LEVELS
1	0.050
2	0.100
3	0.200
4	0.400
5	0.600
6	1.000
7	1.500
8	2.000
9	3.000
0	5.000
A	10.000
B	20.000
C	40.000
D	60.000
E	80.000
F	100.000
G	150.000
H	200.000
I	300.000



SYMBOLS
 1
 2
 3
 4
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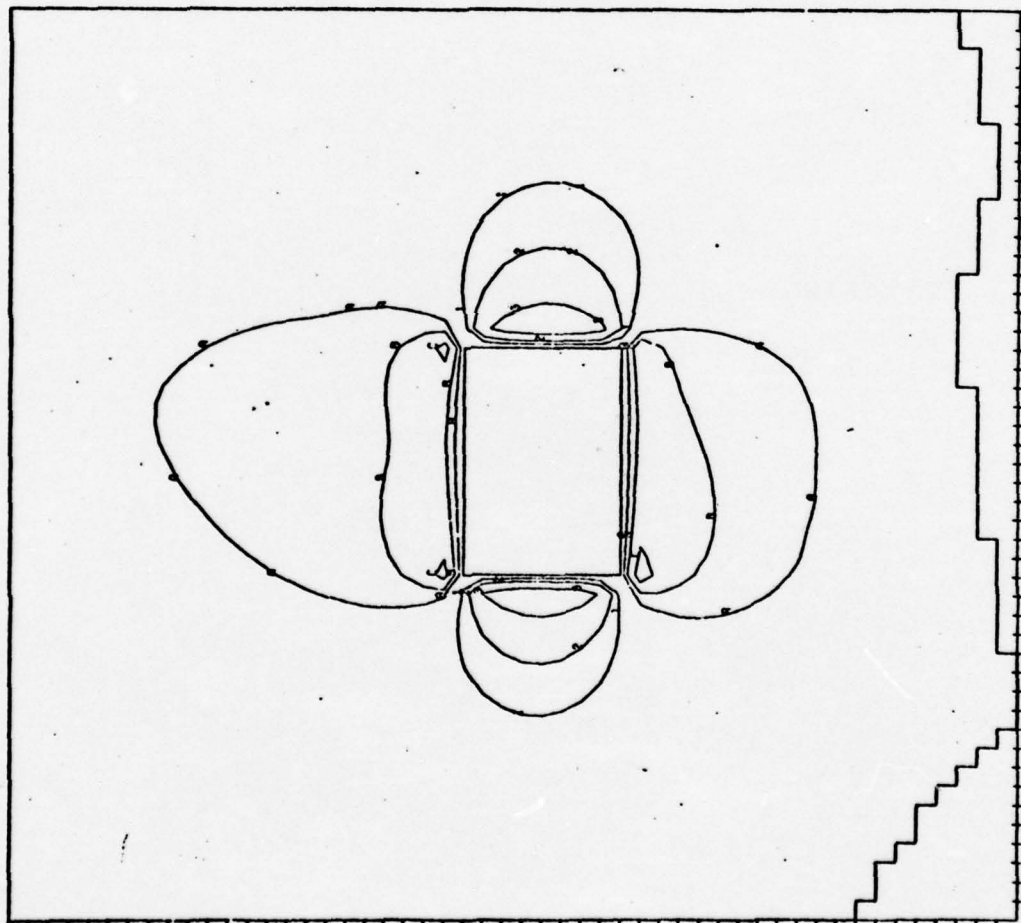
CONTOUR LEVELS
 0.050
 0.100
 0.200
 0.400
 0.600
 0.800
 1.000
 1.200
 1.400
 1.600
 1.800
 2.000
 -0.050
 -0.100
 -0.200
 -0.400
 -0.600
 -0.800
 -1.000
 -1.200
 -1.400
 -1.600
 -1.800
 -2.000

CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

M.O=15.H=17MM

SYMBOLS 1 2 3 4 5 6 7 8 9 A B C D E F G H

CONTOUR LEVELS
 0.050
 0.100
 0.200
 0.400
 0.600
 0.800
 1.000
 1.500
 2.000
 -0.050
 -0.100
 -0.200
 -0.400
 -0.600
 -0.800
 -1.000
 -1.500
 -2.000

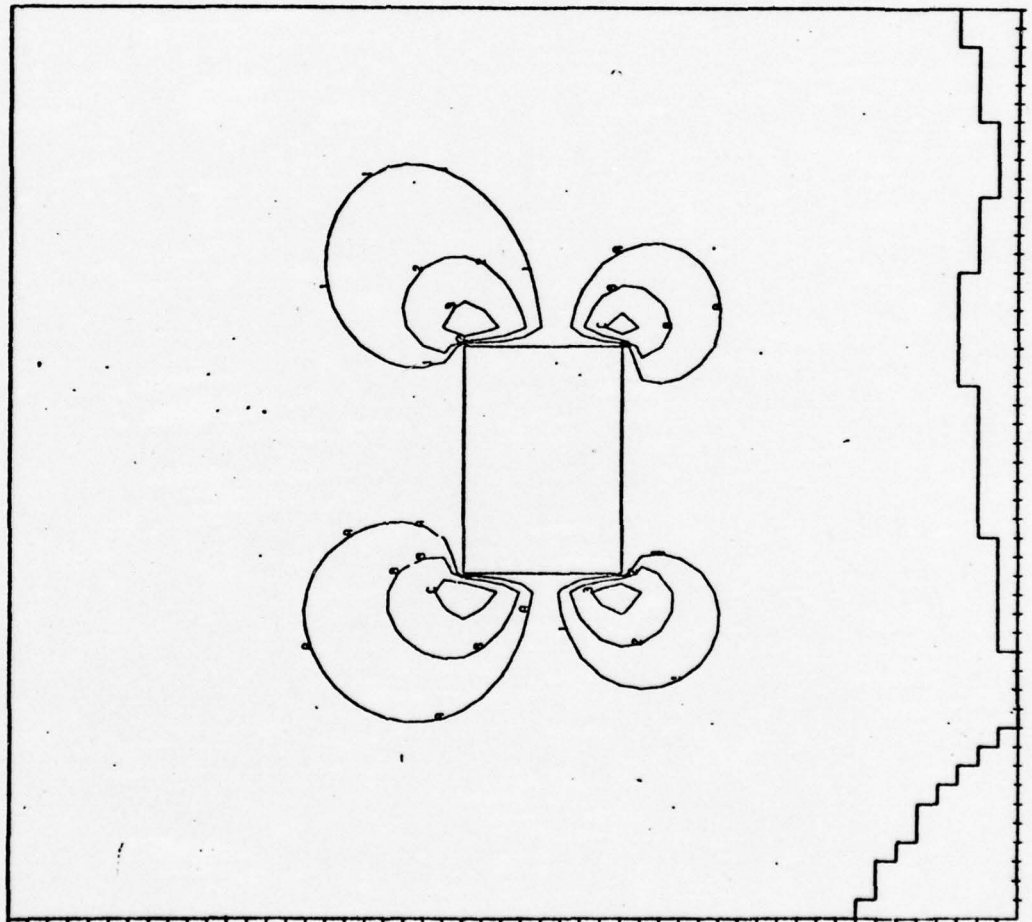


CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

U.O=30.W=17MMH

SYMBOLS
 1 2 3 4 5 6 7 8 9 0 A B C D E F G H I

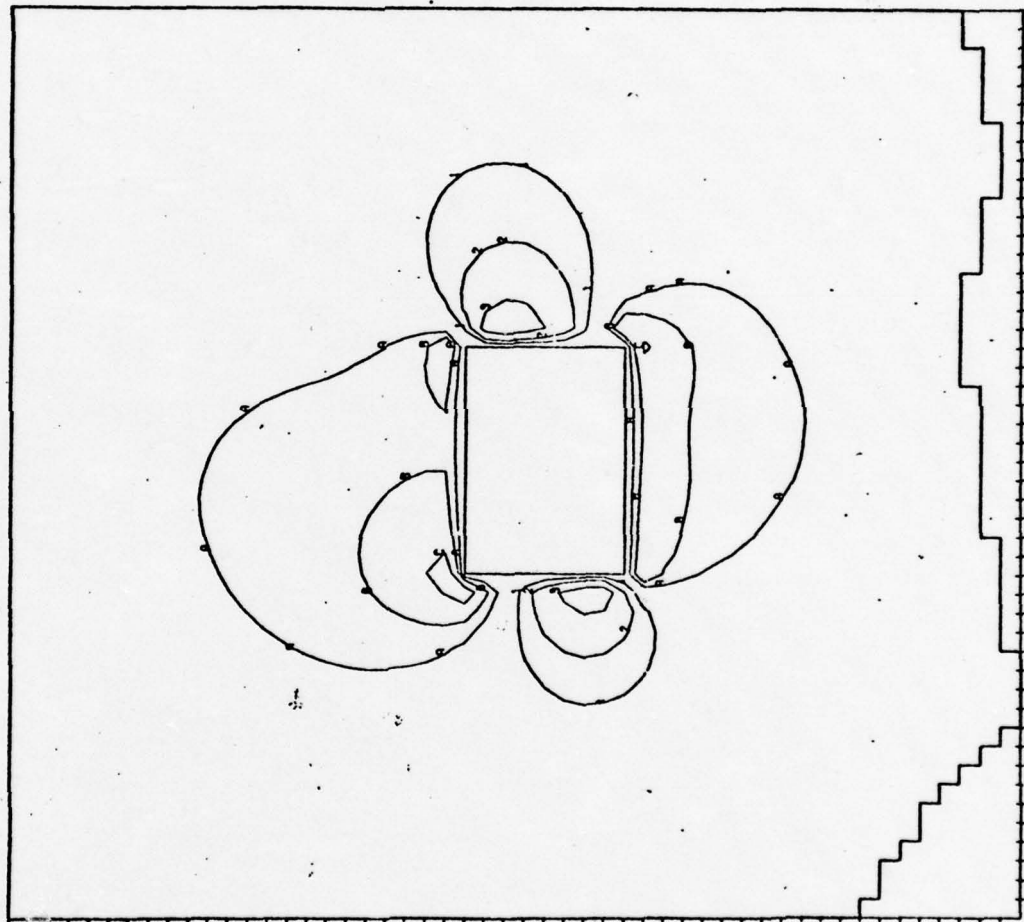
CONTOUR LEVELS
 0.050
 0.100
 0.200
 0.400
 0.600
 0.800
 1.000
 1.500
 2.000
 -0.050
 -0.100
 -0.200
 -0.400
 -0.600
 -0.800
 -1.000
 -1.500
 -2.000



CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

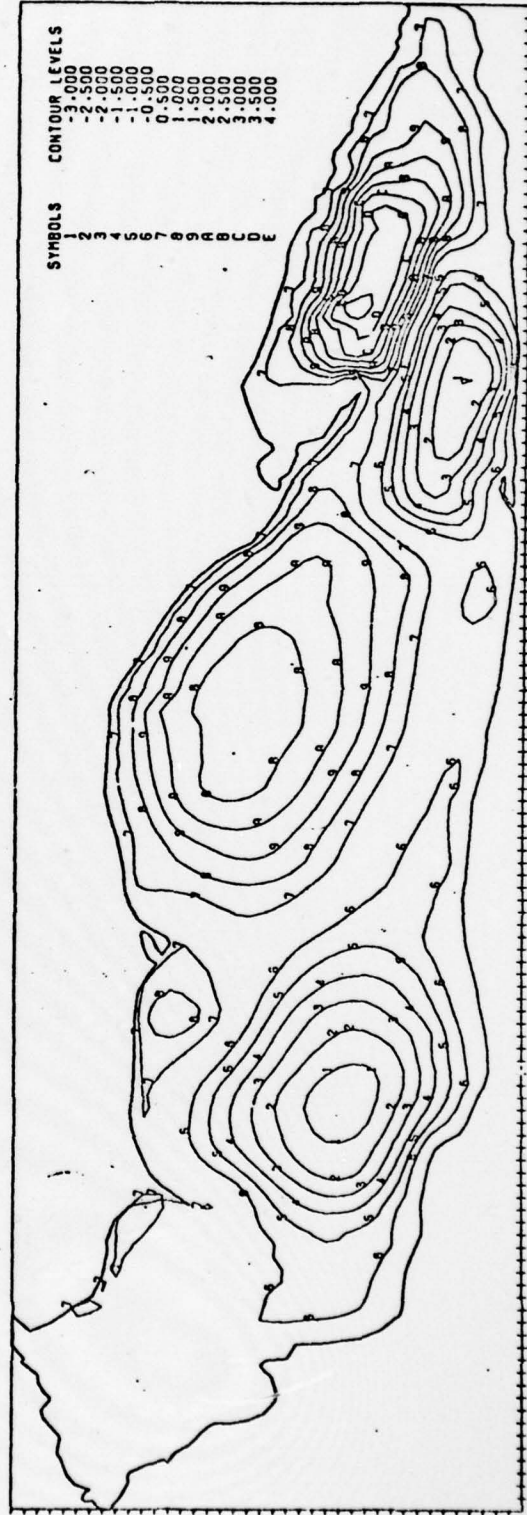
V.D=30, W=17MMH

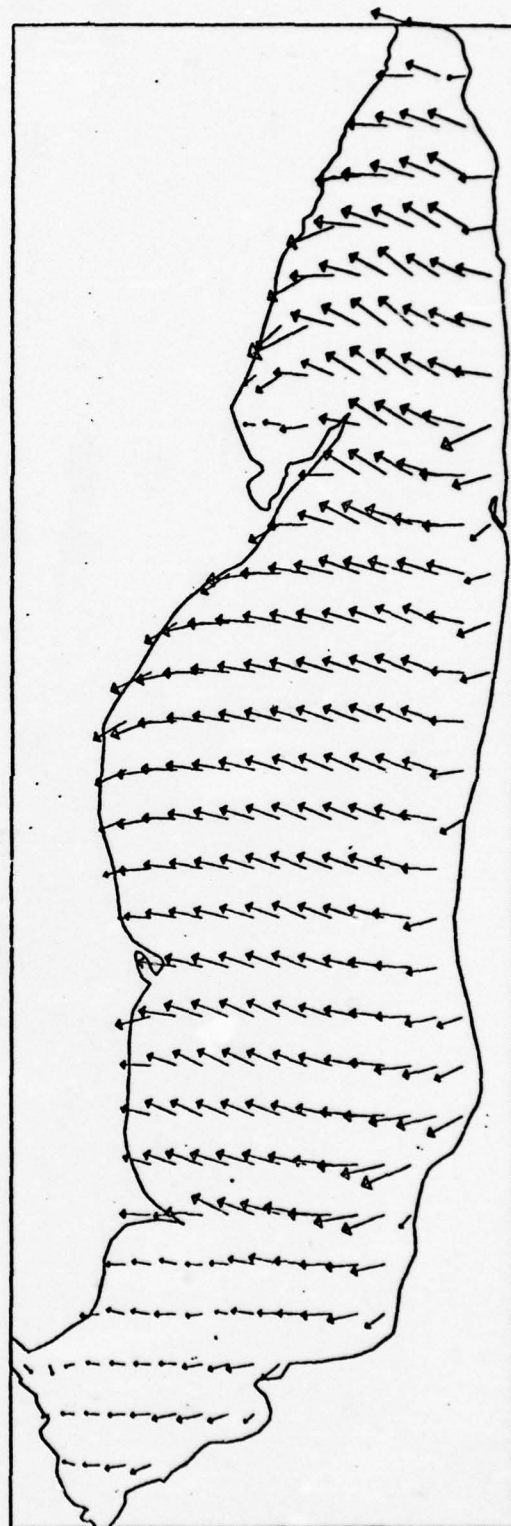
SYMBOLS	CONTOUR LEVELS
1	0.050
2	0.100
3	0.200
4	0.400
5	0.600
6	1.000
7	1.500
8	2.000
9	2.500
A	-0.050
B	-0.100
C	-0.200
D	-0.400
E	-0.600
F	-0.800
G	-1.000
H	-1.500
I	-2.000



CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

M.D=30, H=17NNH

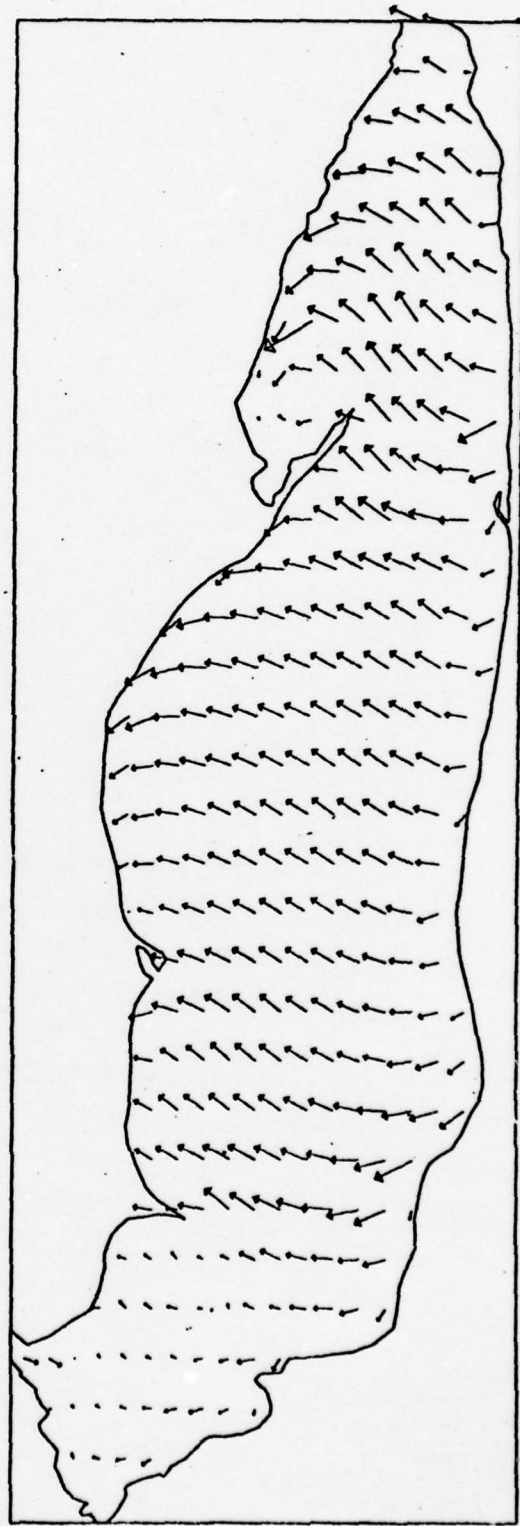




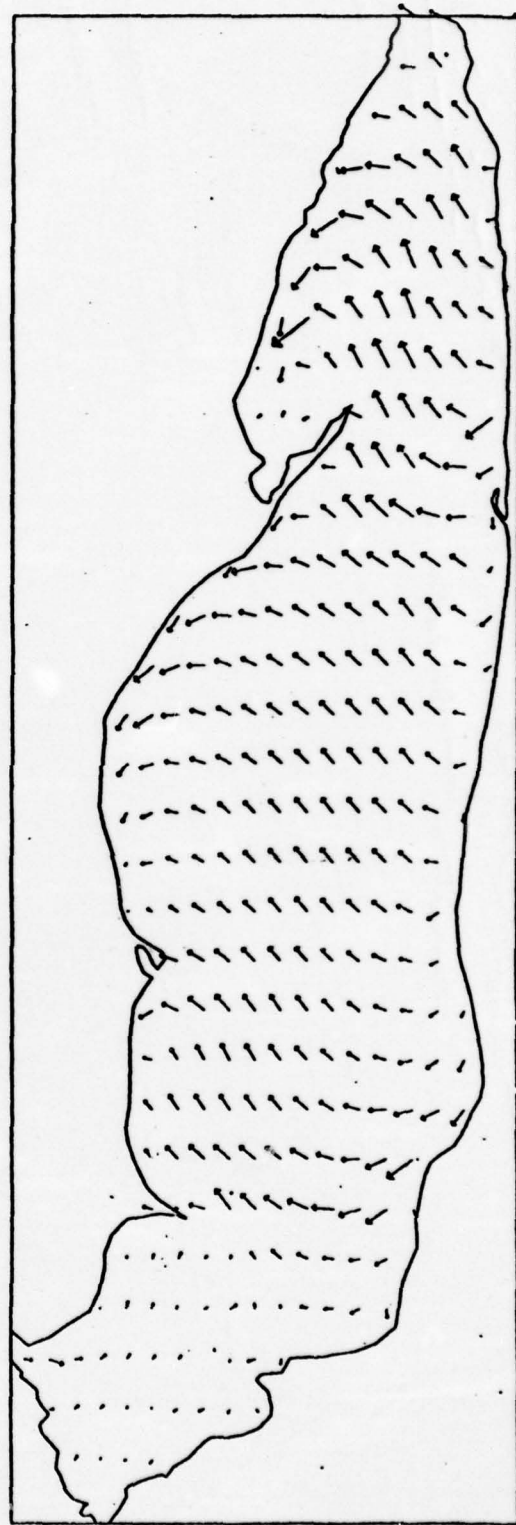
17 MPH, SE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 0.0 FT

VECTOR LENGTH = 1 FOOT/SEC = ——— 1.0



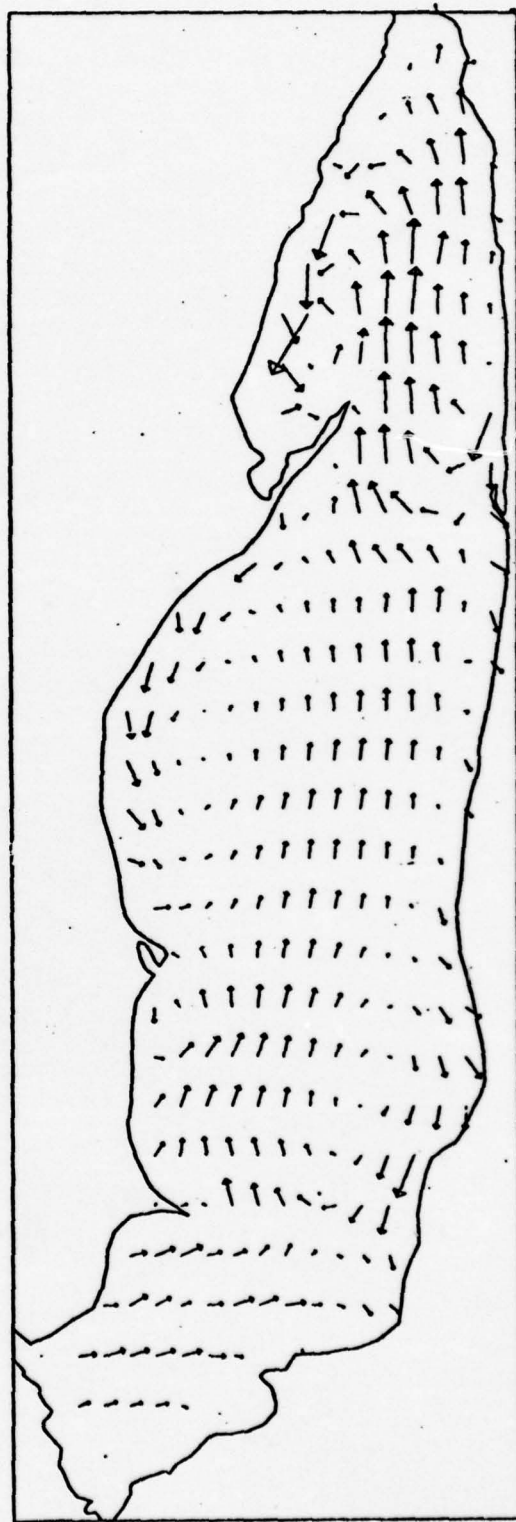
HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 5.0 FT
VECTOR LENGTH = 1 FOOT/SEC = 1.0
17 MPH/SEC



17 MPH, SE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 10.0 FT

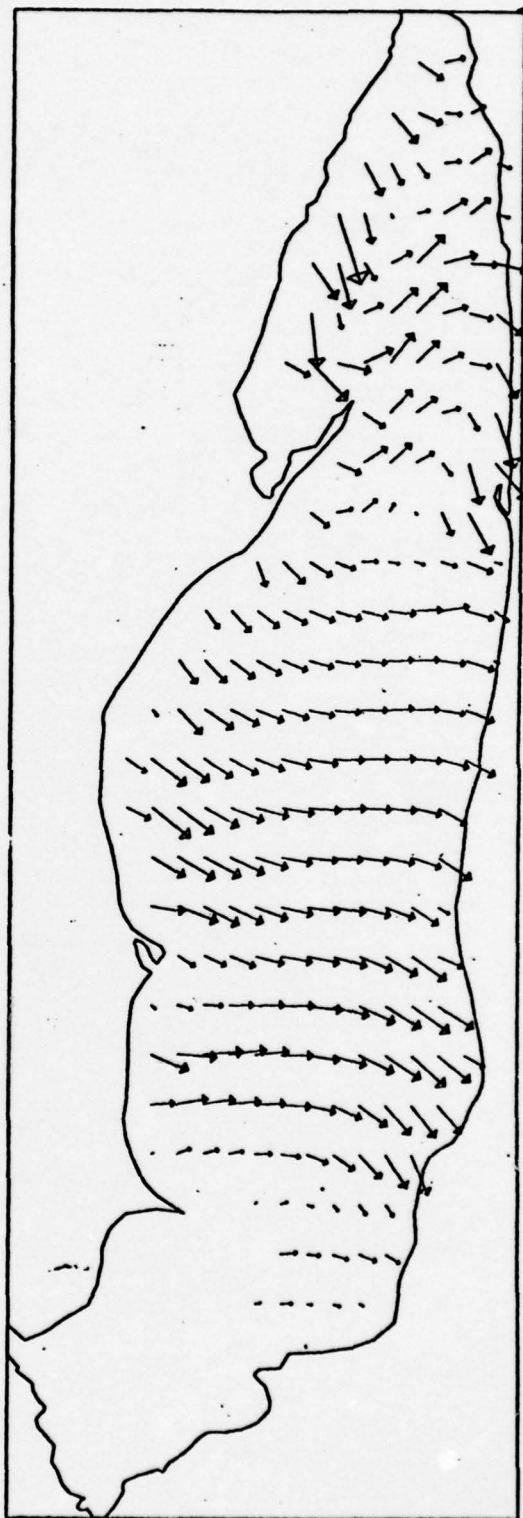
VECTOR LENGTH = 1 FOOT/SEC = 1.0



17 MPH, SE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 20.0 FT

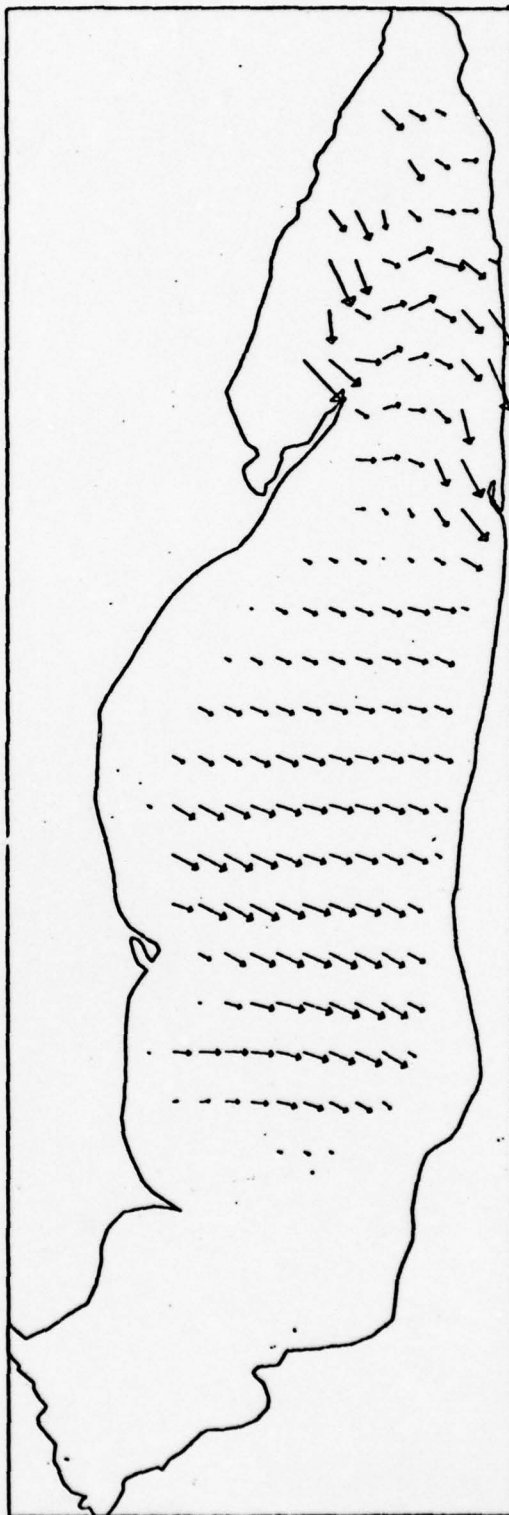
VECTOR LENGTH = 1 FOOT/SEC = 1.0



17 MPH/SEC

40.0 FT

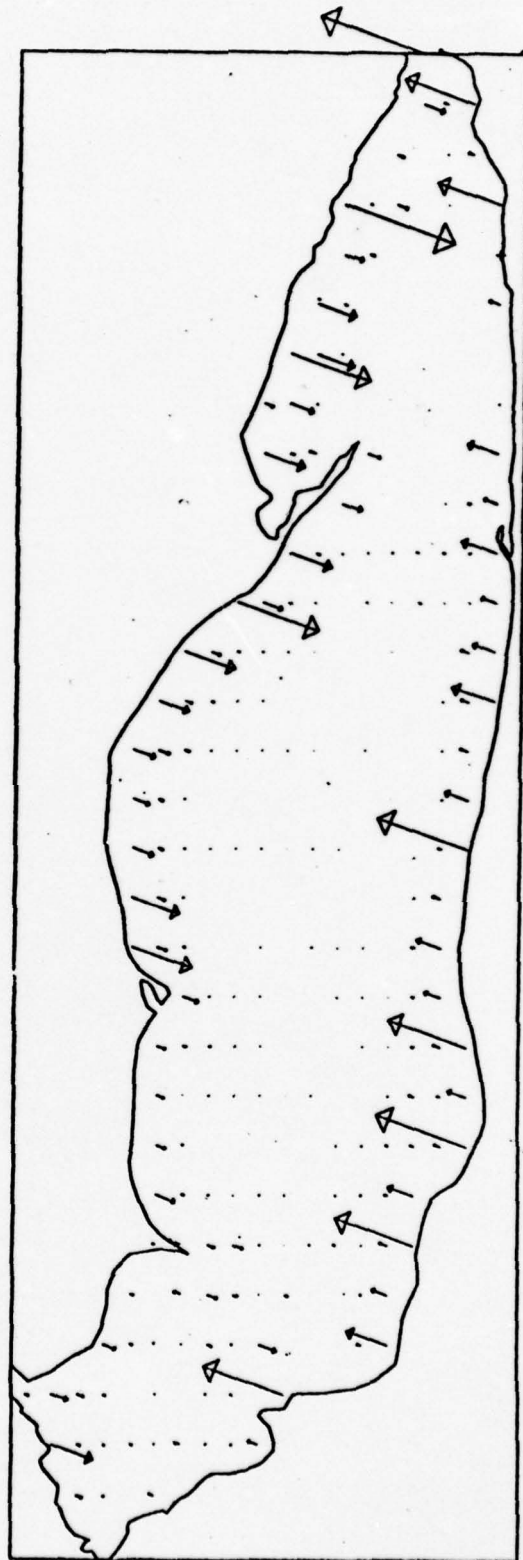
HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 40.0 FT
VECTOR LENGTH = 1 FOOT/SEC = 1.0



17 MPH, SE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 60.0 FT

VECTOR LENGTH = 1 FOOT/SEC = 1.0



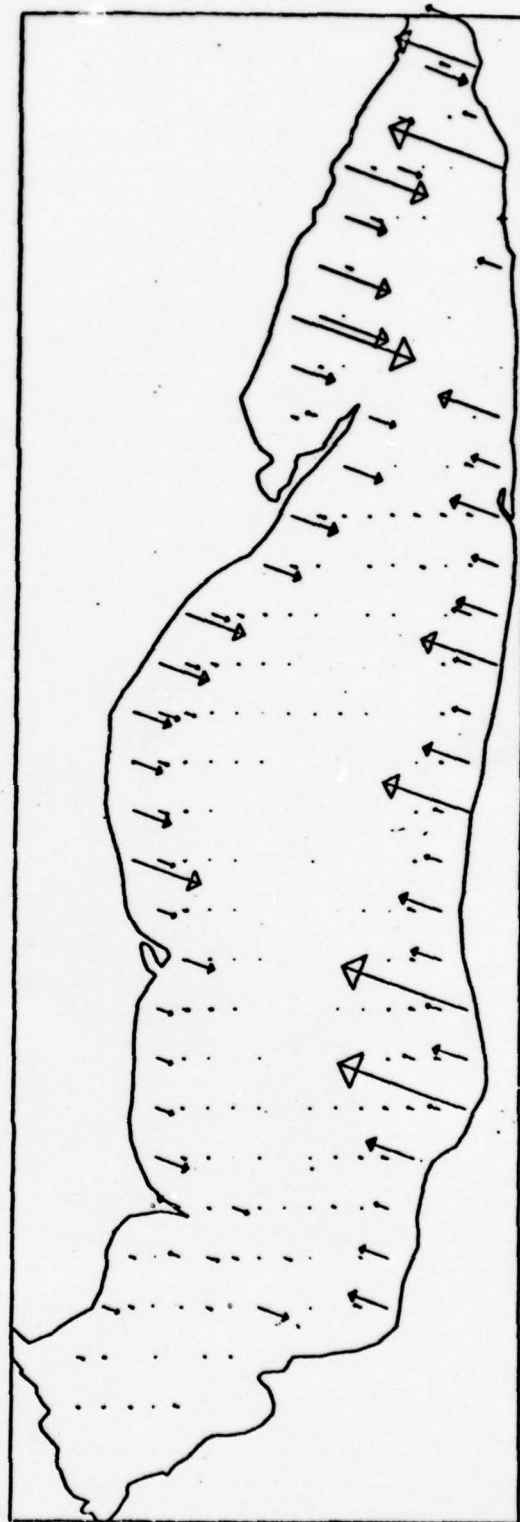
17 MPH.SE

10.0 FT

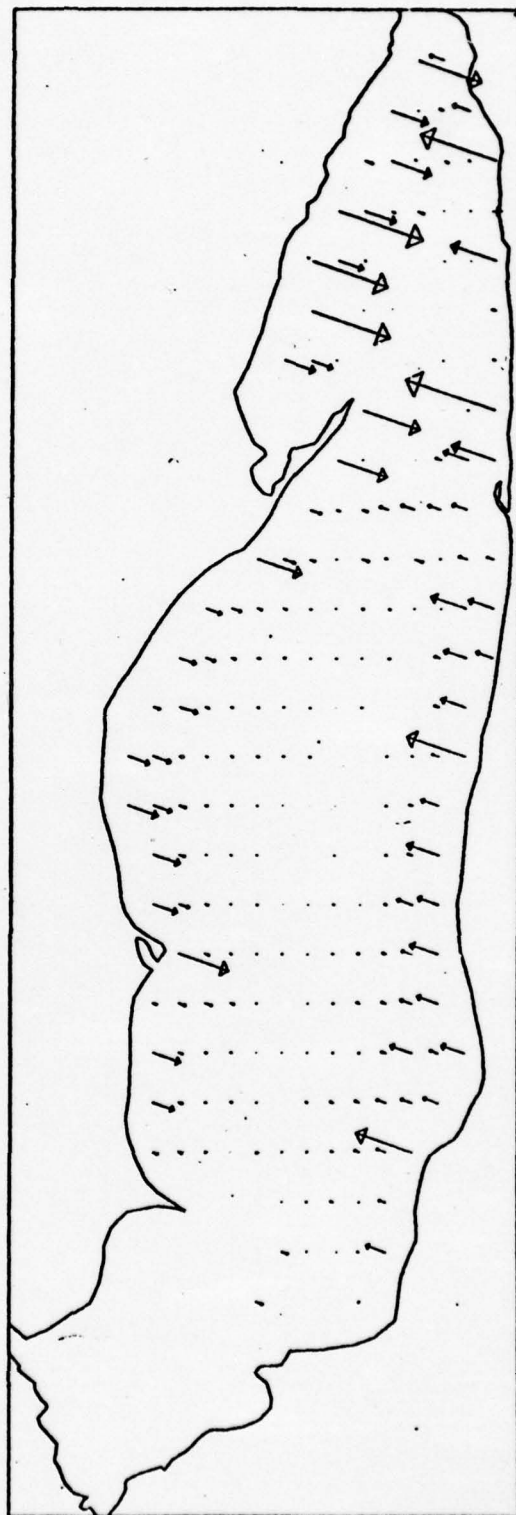
VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

VECTOR LENGTH = 1 FOOT/SEC =

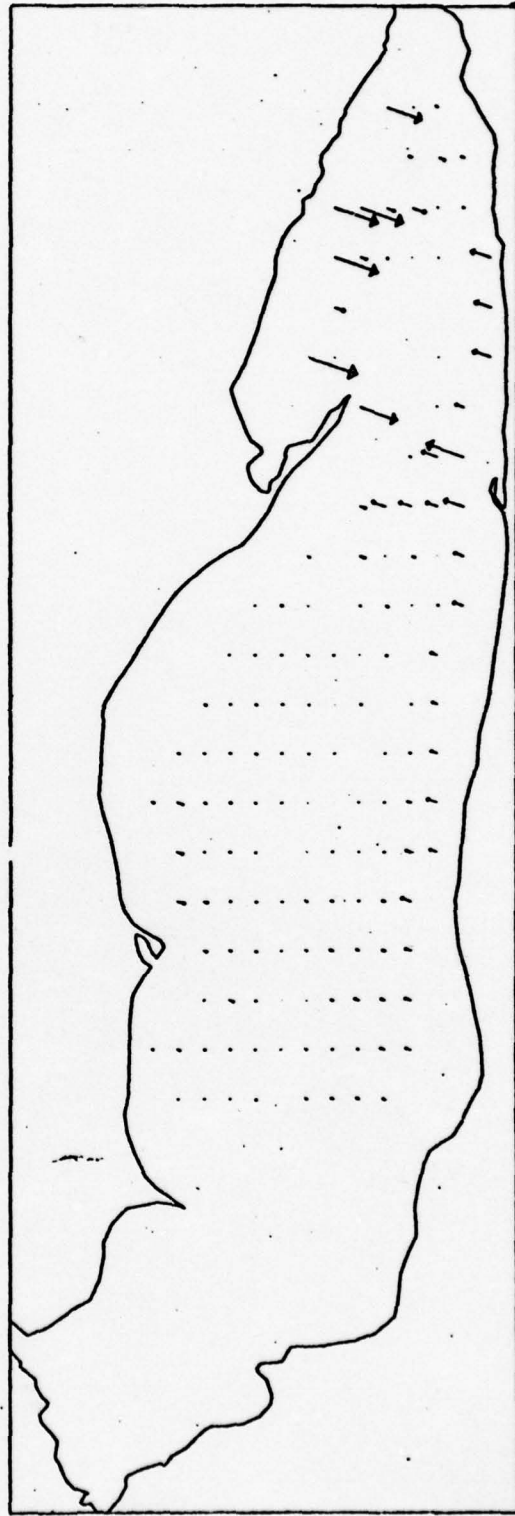
1200.0



VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF 20.0 FT 17 MPH-SE
VECTOR LENGTH = 1 FOOT/SEC = 1200.0



VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF 40.0 FT 17 MPH-SE
VECTOR LENGTH = 1 FOOT/SEC = 1200.0



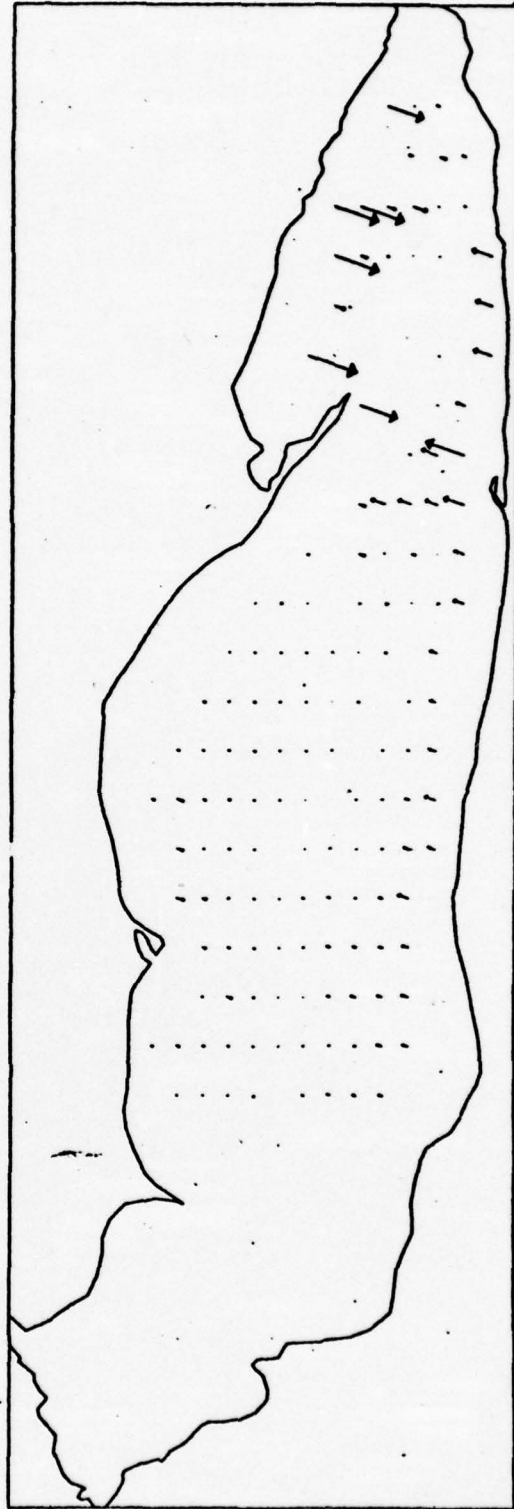
17 MPH.SE

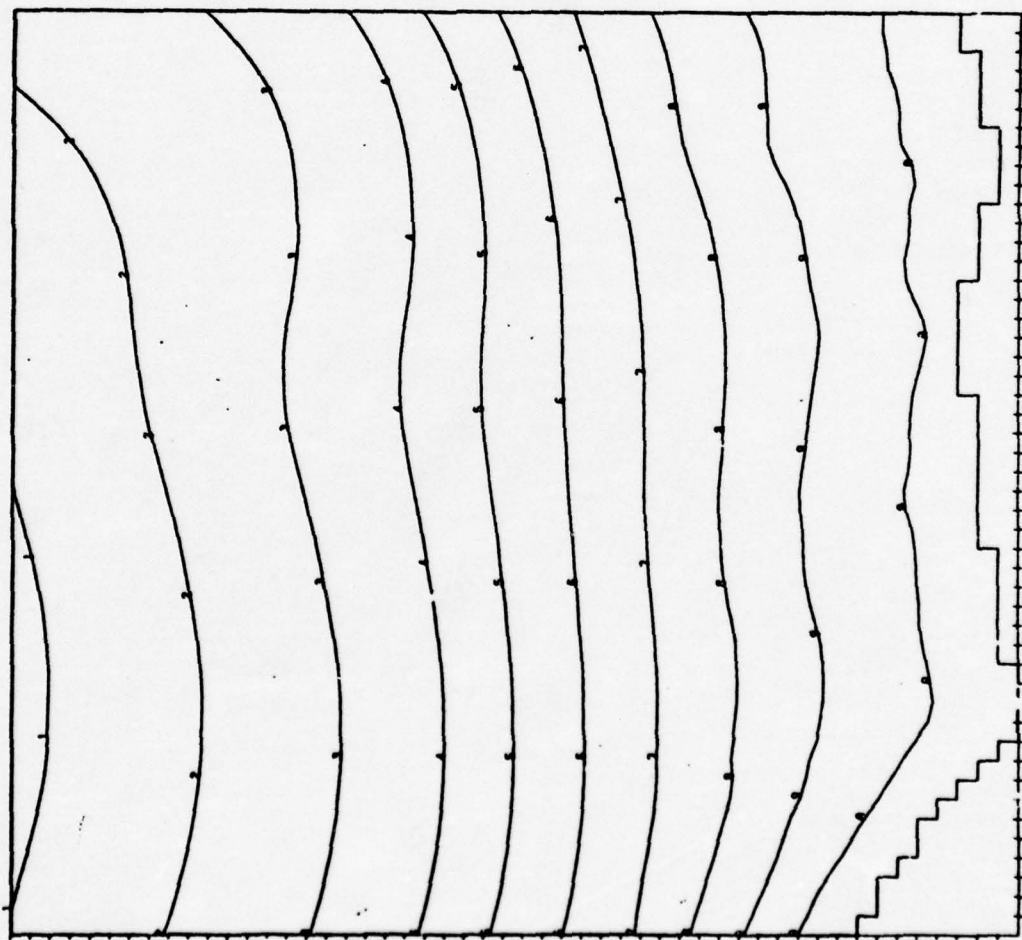
60.0 FT

1200.0

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

VECTOR LENGTH = 1 FOOT/SEC =

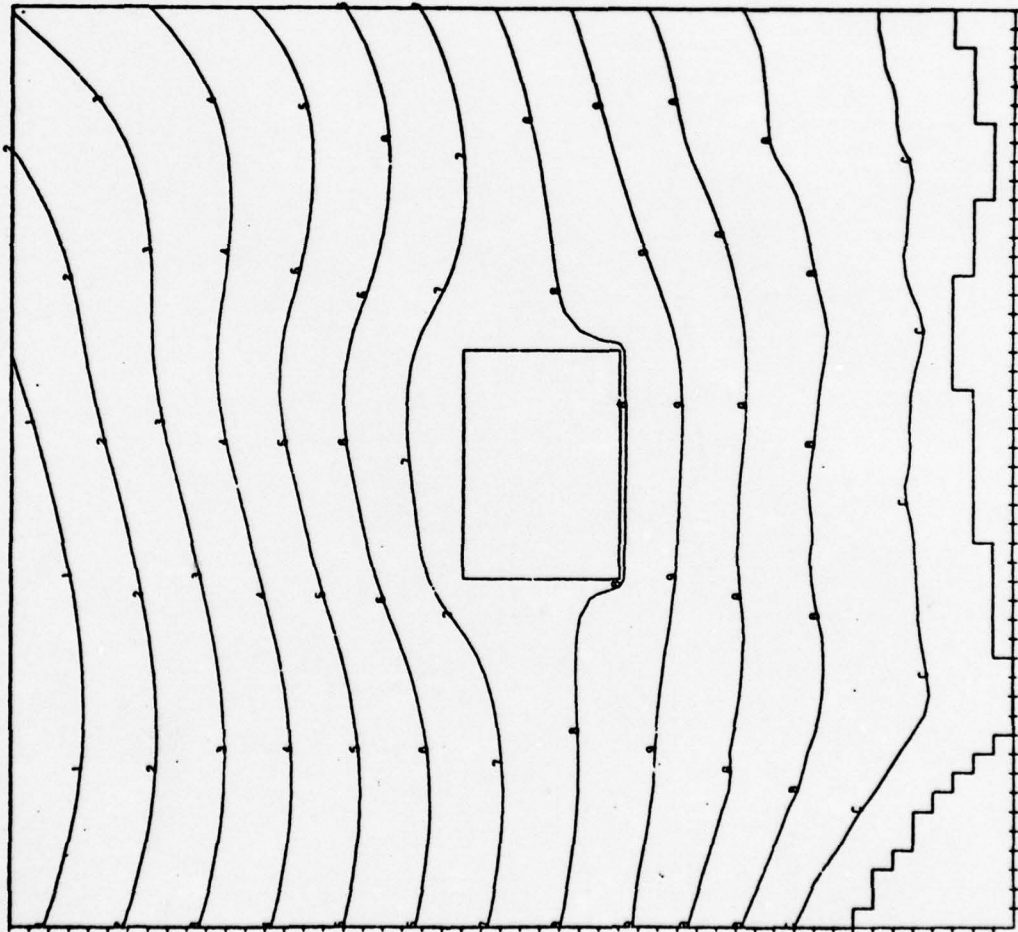




SYMBOLS	CONTOUR LEVELS
1	-2.400
2	-2.000
3	-1.600
4	-1.200
5	-0.800
6	-0.400
7	-0.000
8	0.400
9	0.800
A	1.200

CONTOURS OF STREAM FUNCTION FOR LAKE ERIE -- NEARSHORE

WR=17MPH.SE

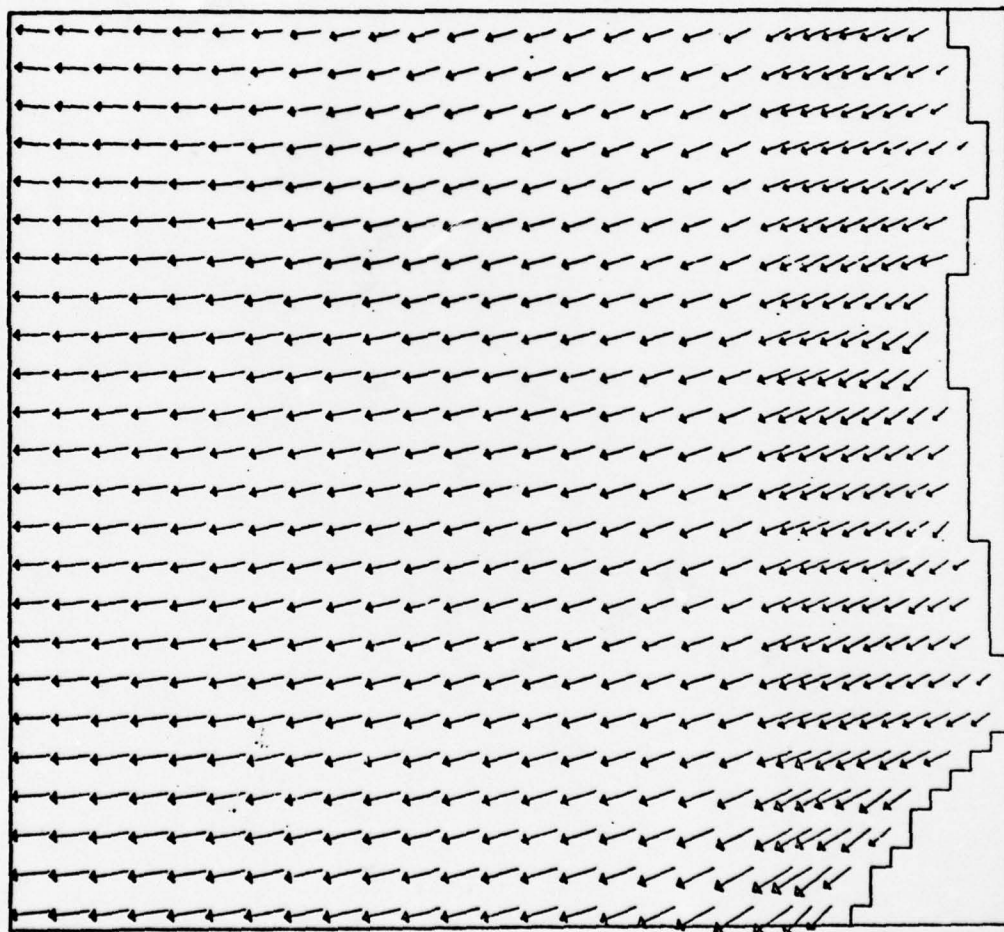


SYMBOLS
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

CONTOUR LEVELS
 -2.300
 -2.100
 -1.900
 -1.700
 -1.500
 -1.300
 -1.100
 -0.900
 -0.700
 -0.500
 -0.300
 -0.100

WR=17MPH.SE

CONTOURS OF STREAM FUNCTION FOR LAKE ERIE -- NEARSHORE

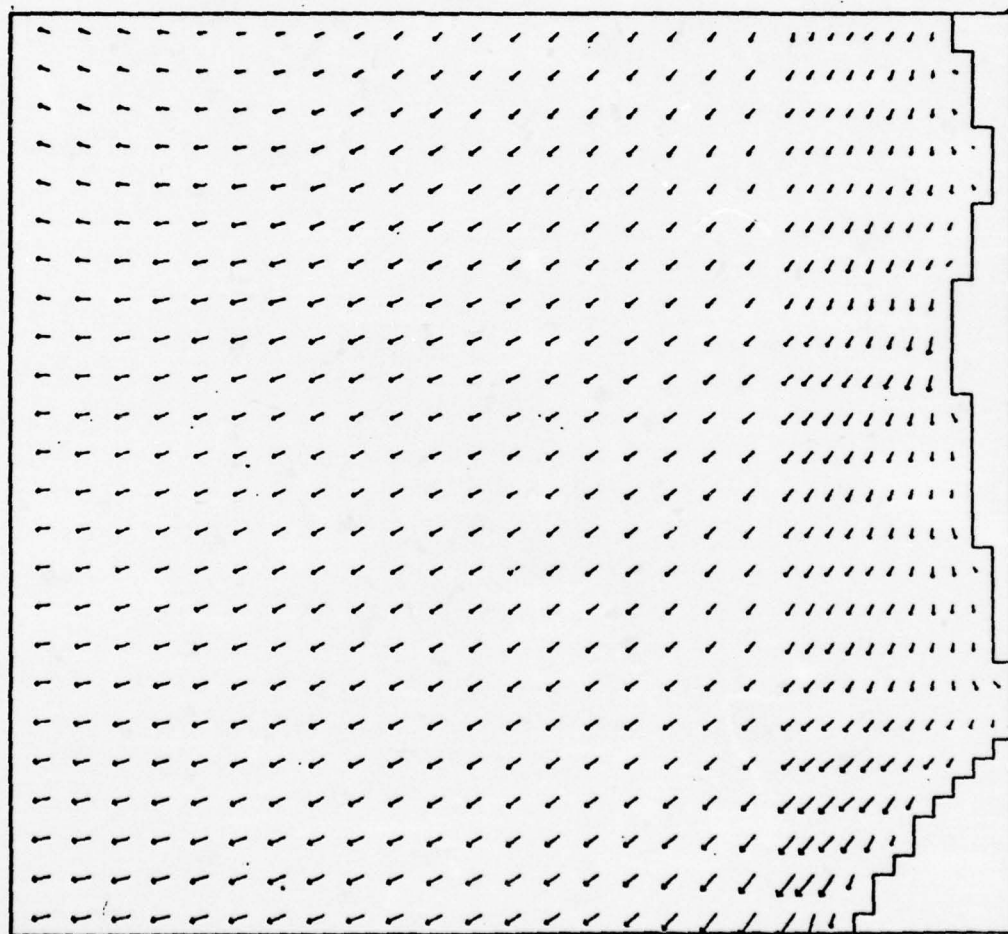


17 MPH·SE

1.0

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 0.0 FT

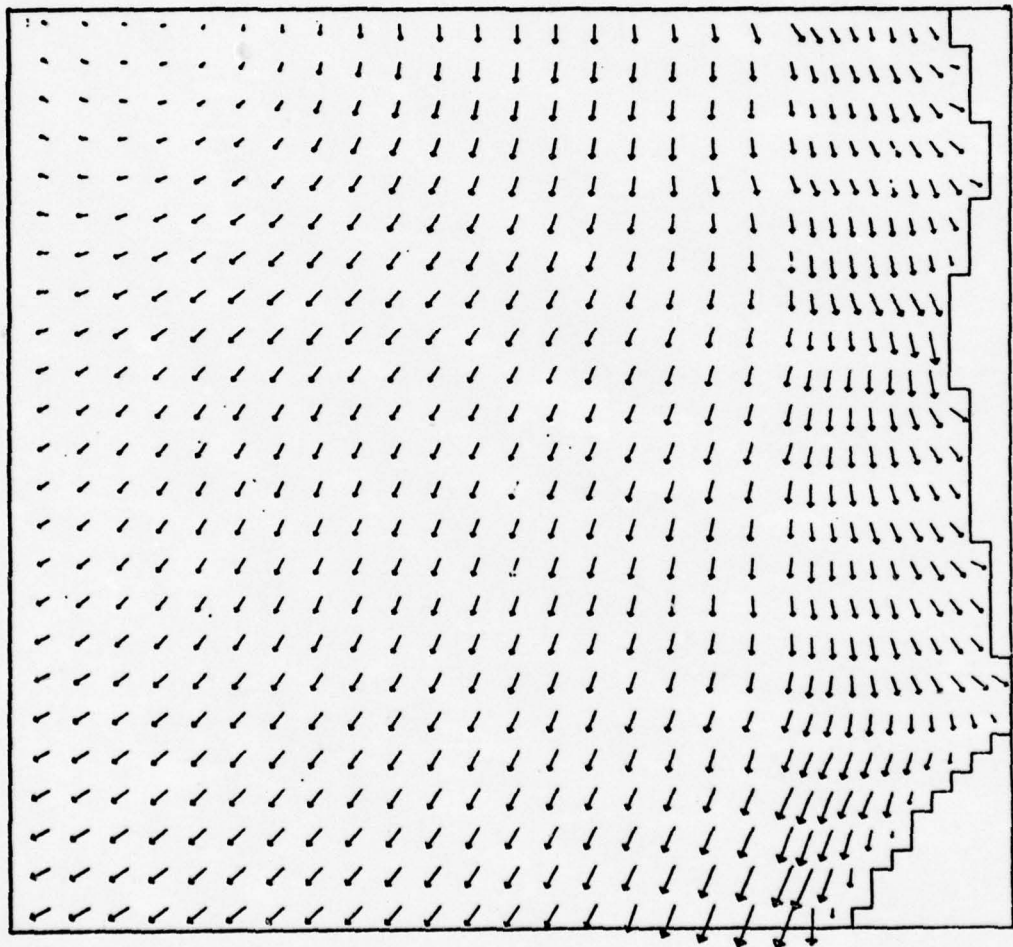
VECTOR LENGTH = 1 FOOT/SEC = ———



17 MPH, SE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 10.0 FT

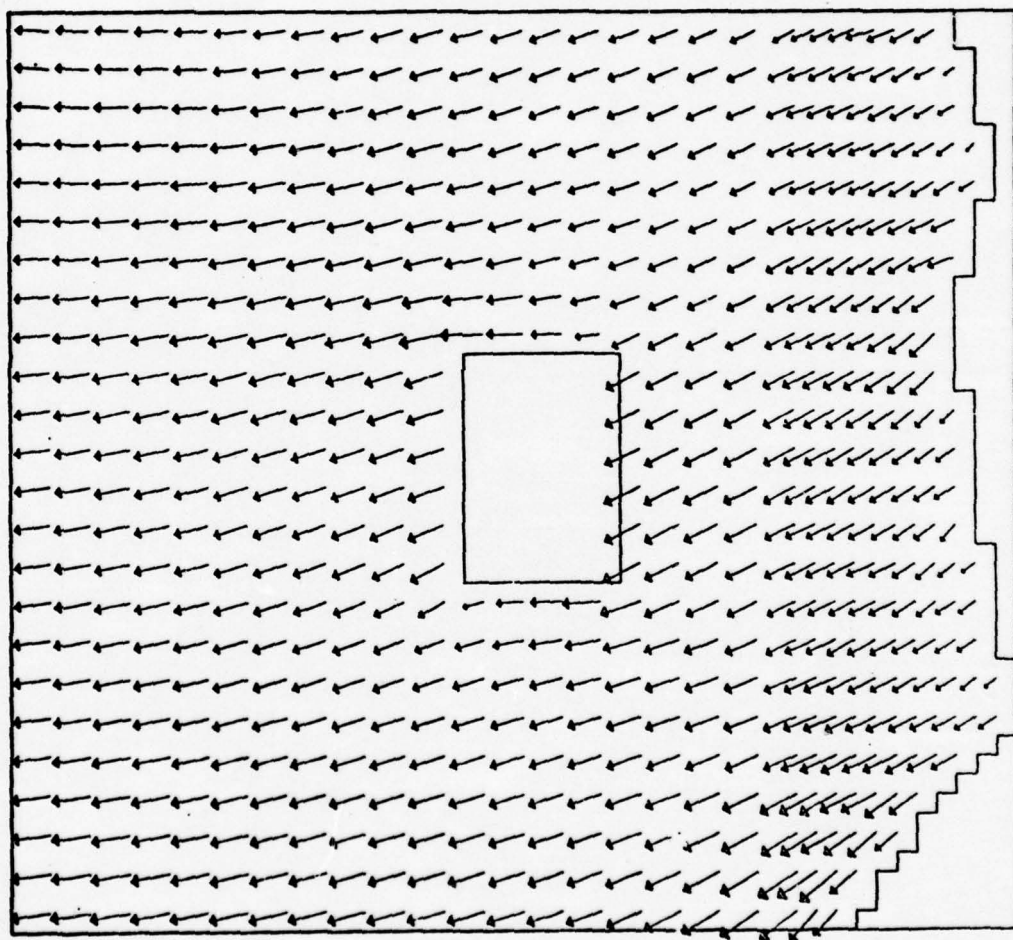
VECTOR LENGTH = 1 FOOT/SEC = ——— 1.0



17 MPH-SE

1.0

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 15.0 FT
VECTOR LENGTH = 1 FOOT/SEC = _____

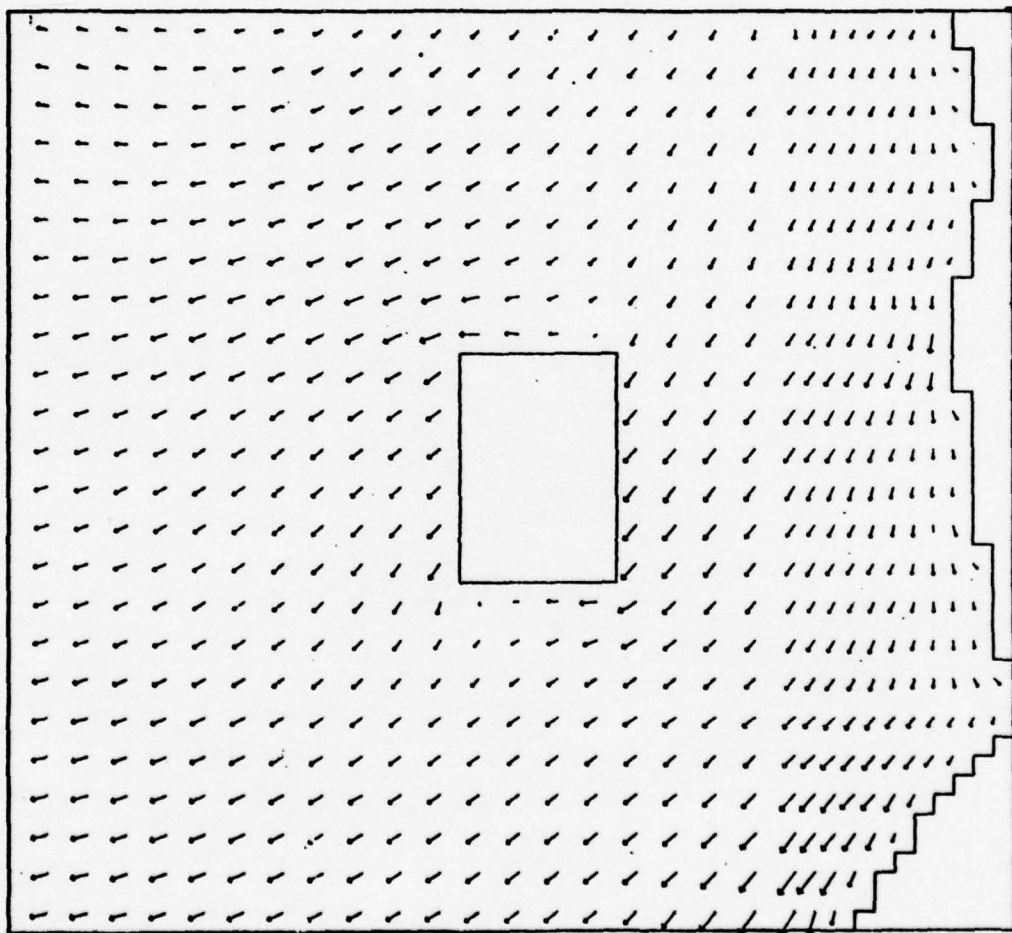


17 MPH, SE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 0.0 FT

1.0

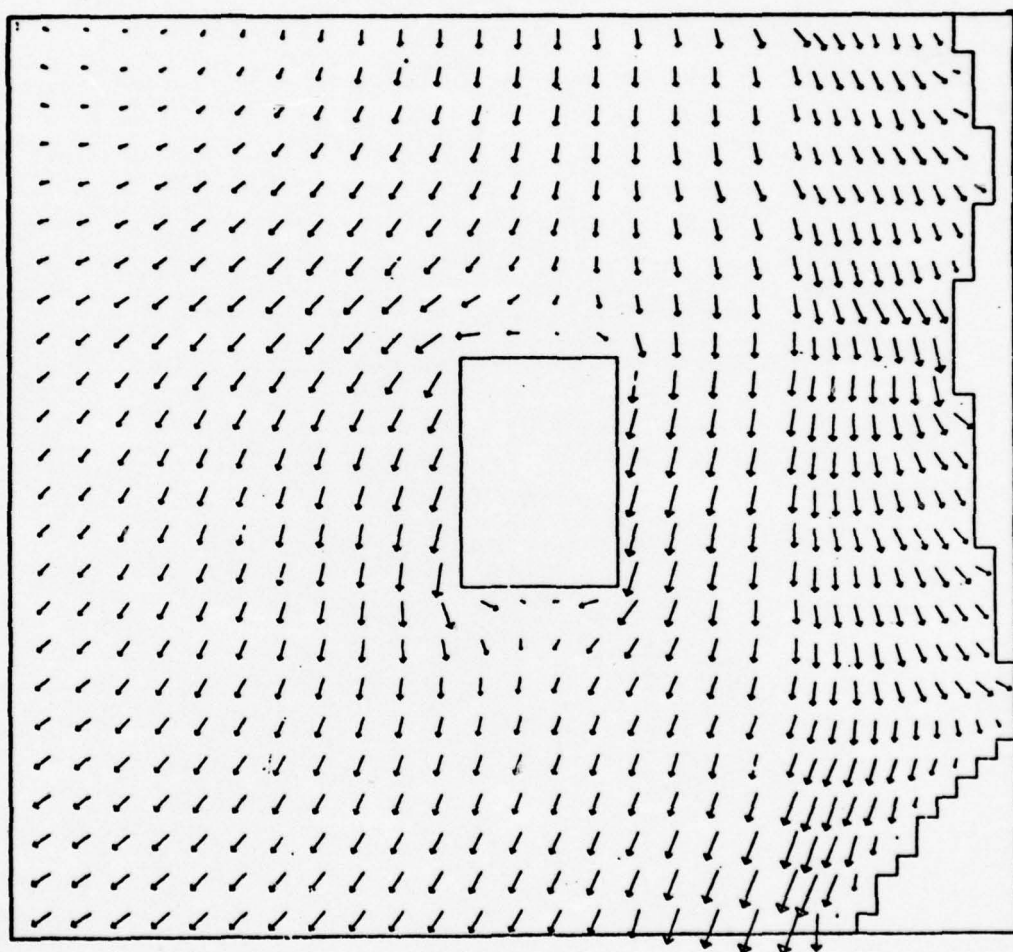
VECTOR LENGTH = 1 FOOT/SEC = —



17 MPH, SE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 10.0 FT

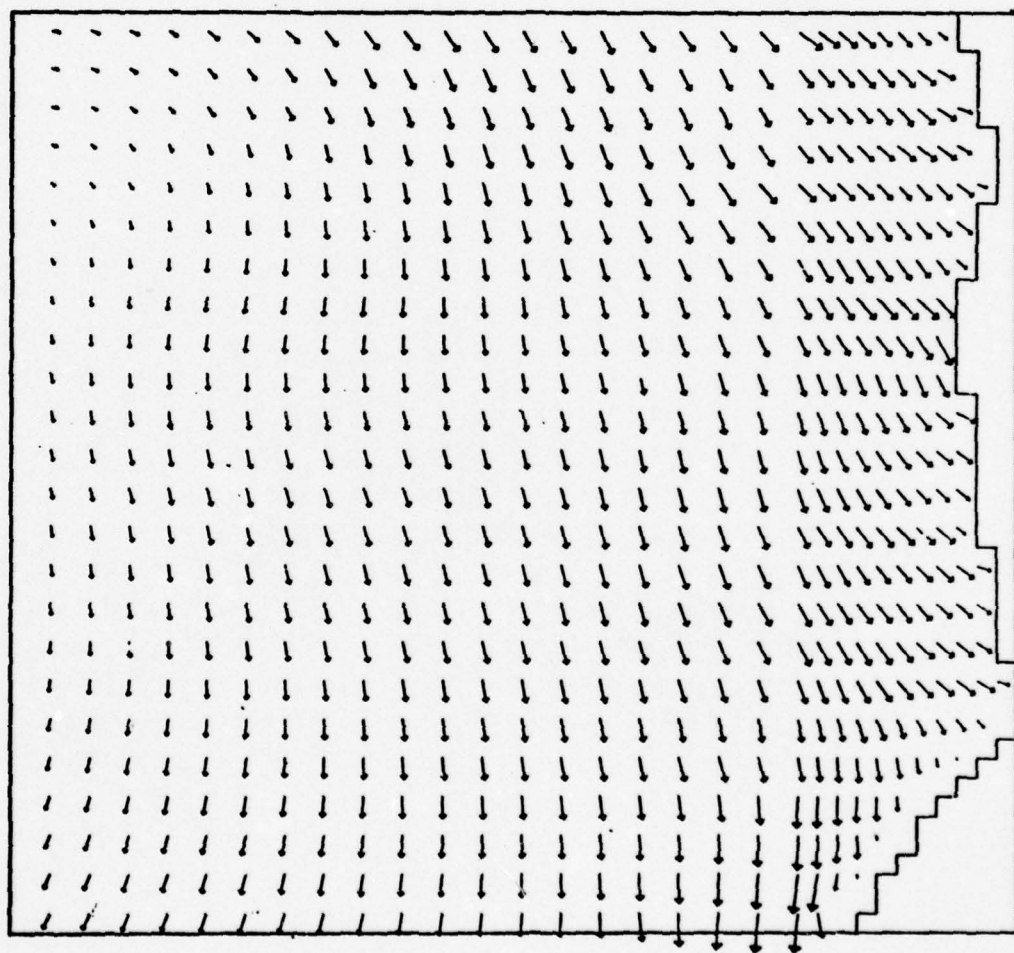
VECTOR LENGTH = 1 FOOT/SEC = ——— 1.0



17 MPH-SE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 15.0 FT

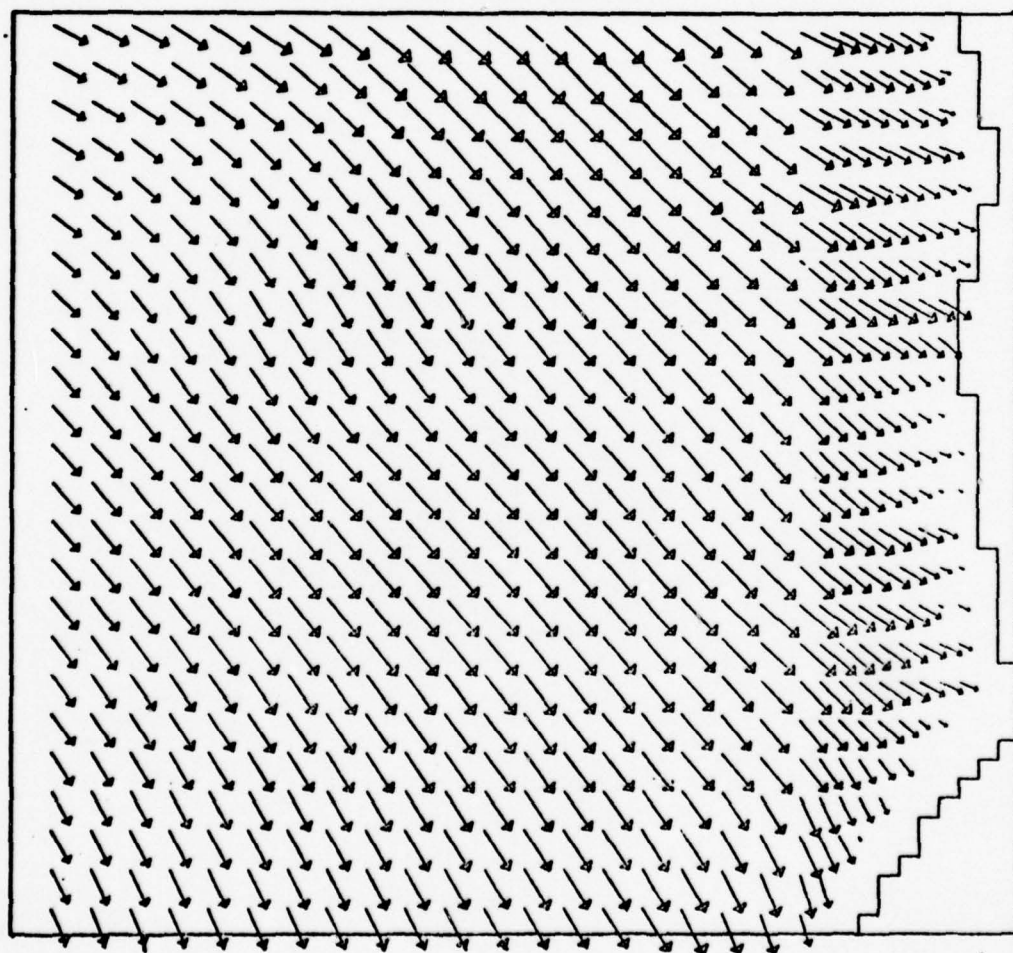
VECTOR LENGTH = 1 FOOT/SEC = 1.0



17 MPH-SE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 20.0 FT

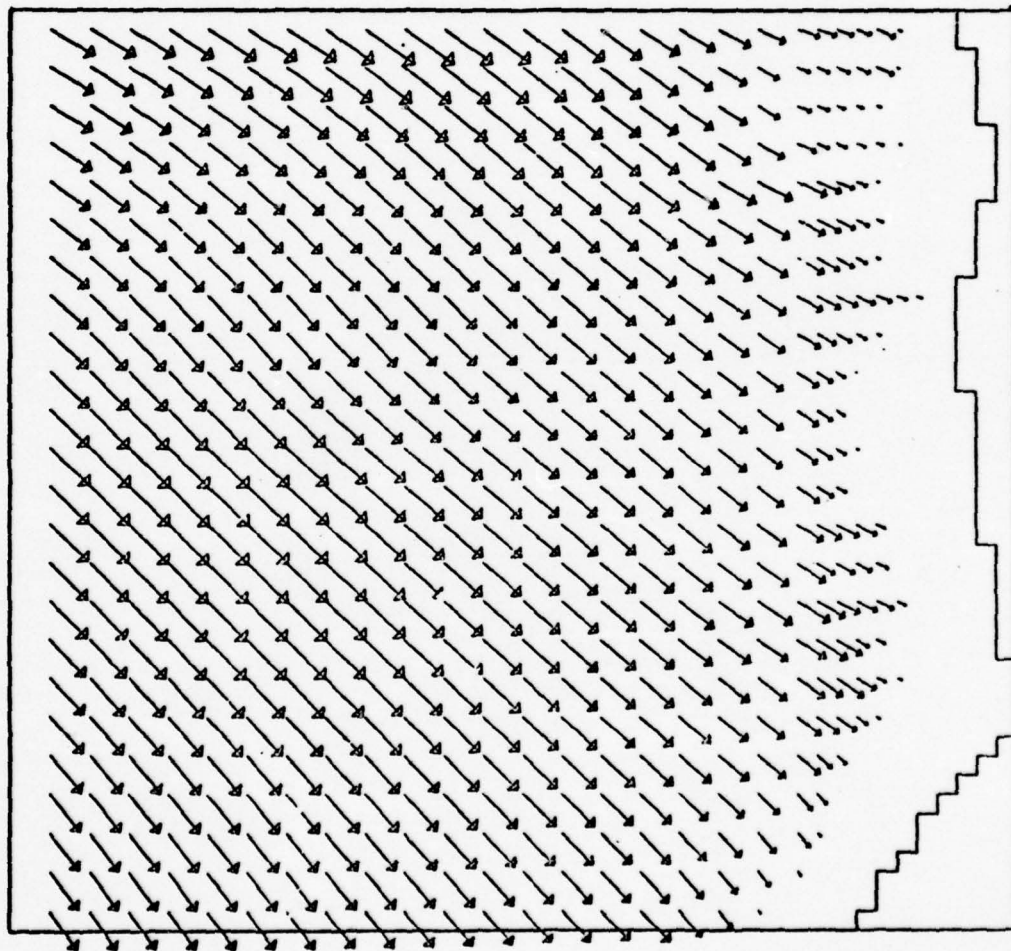
VECTOR LENGTH = 1 FOOT/SEC = 1.0



17 MPH, SE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 30.0 FT

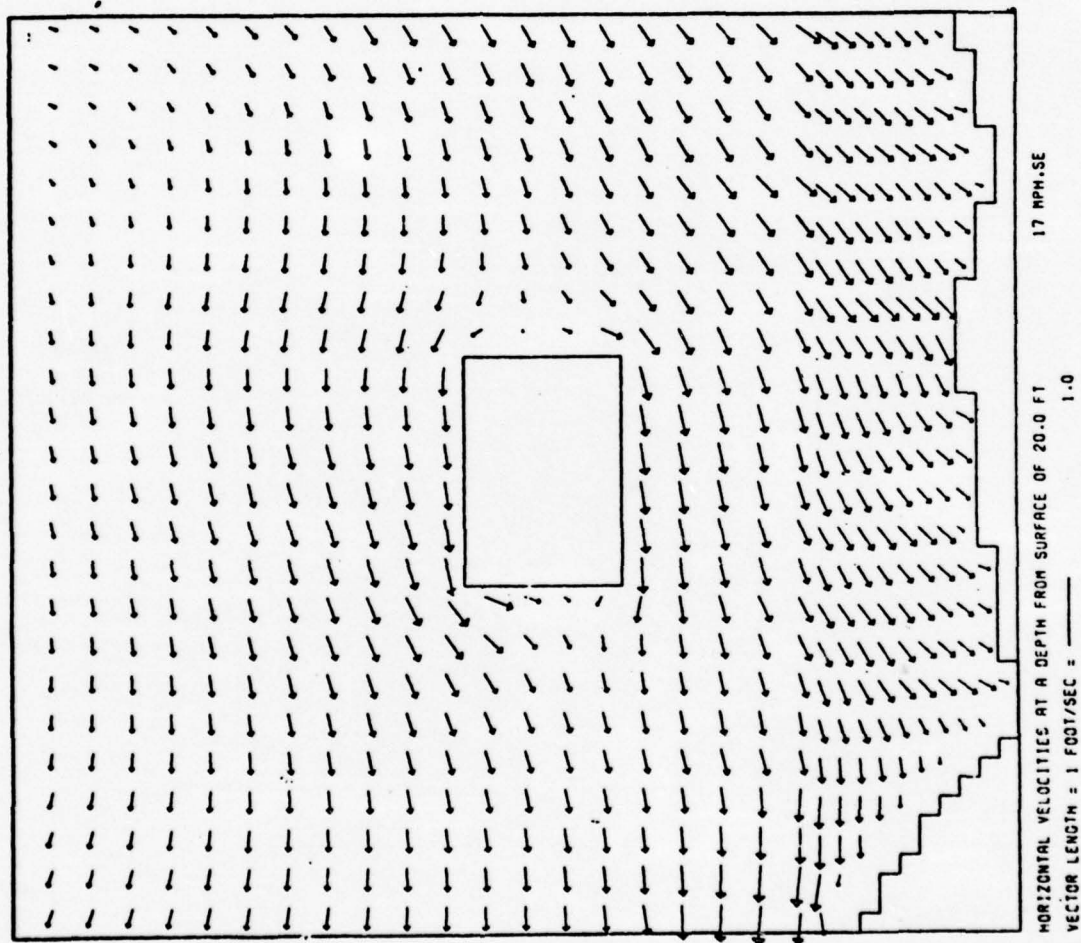
VECTOR LENGTH = 1 FOOT/SEC = 1.0

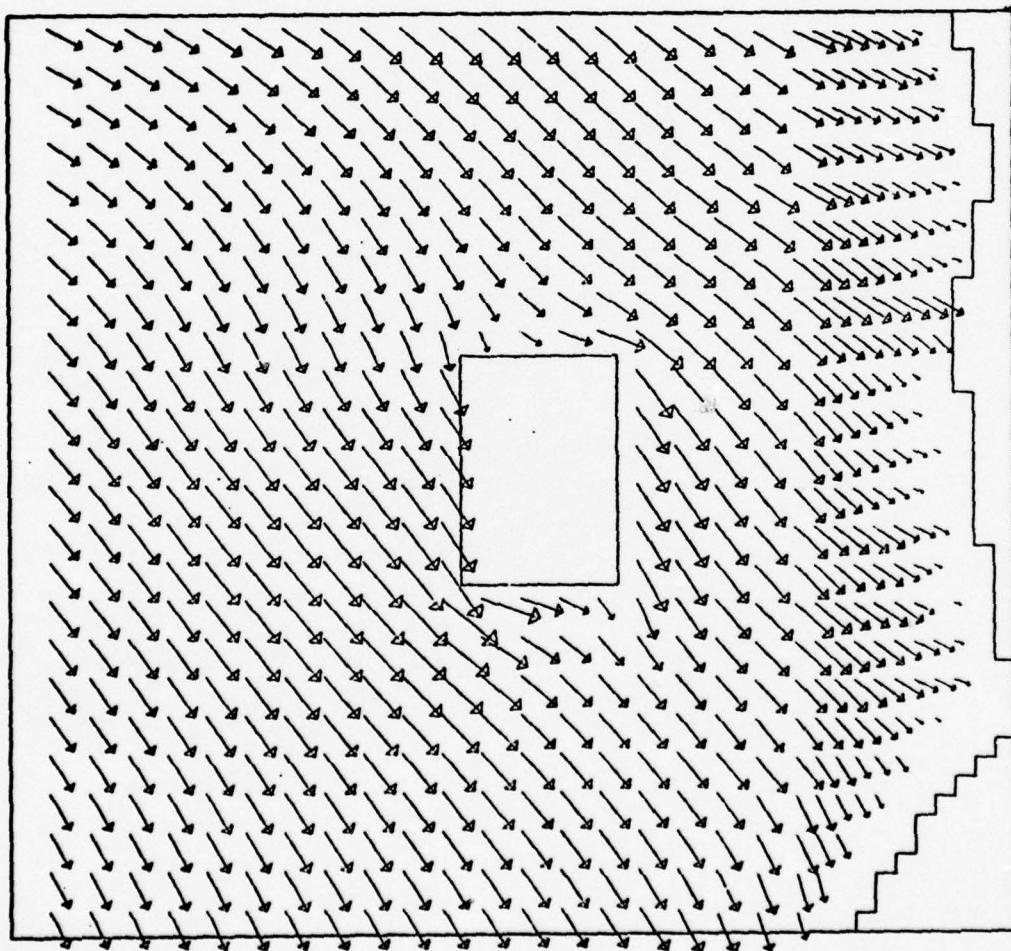


17 MPH, SE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 40.0 FT

VECTOR LENGTH = 1 FOOT/SEC = 1.0

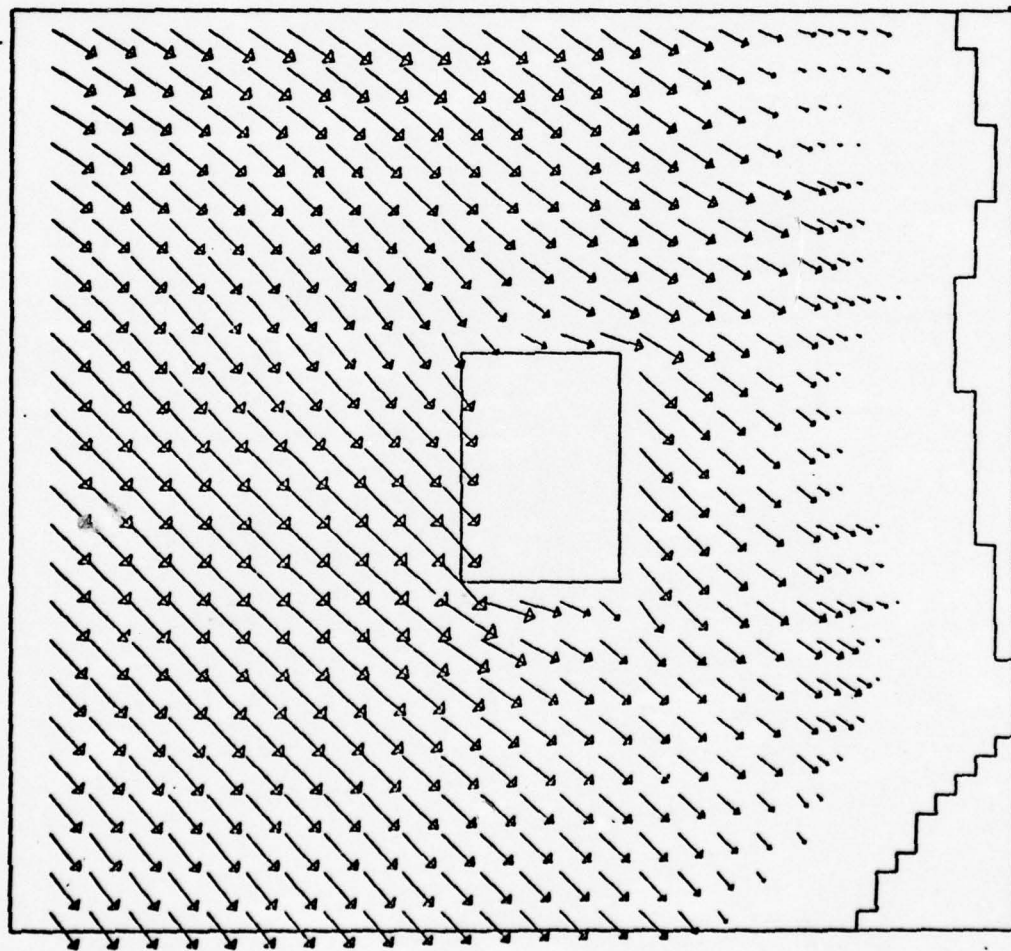




17 MPH-SE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 30.0 FT

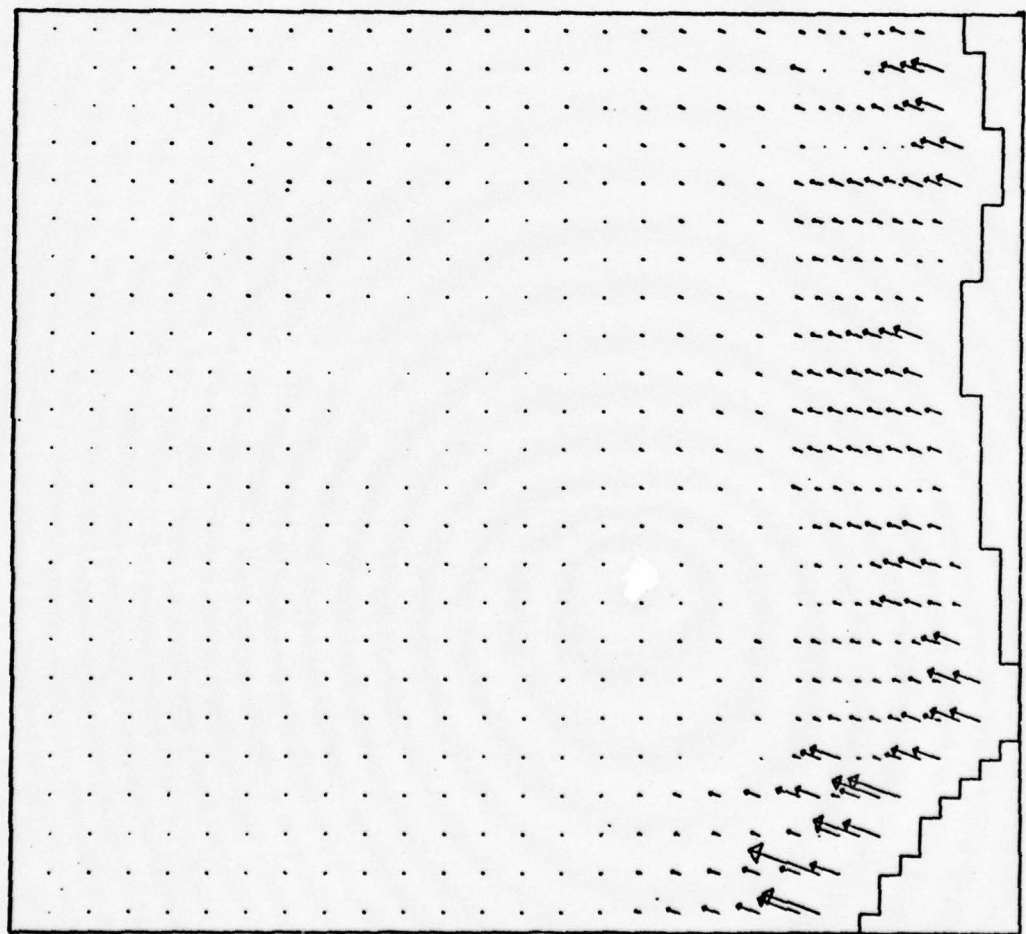
VECTOR LENGTH = 1 FOOT/SEC = 1.0



17 MPH.SE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 40.0 FT

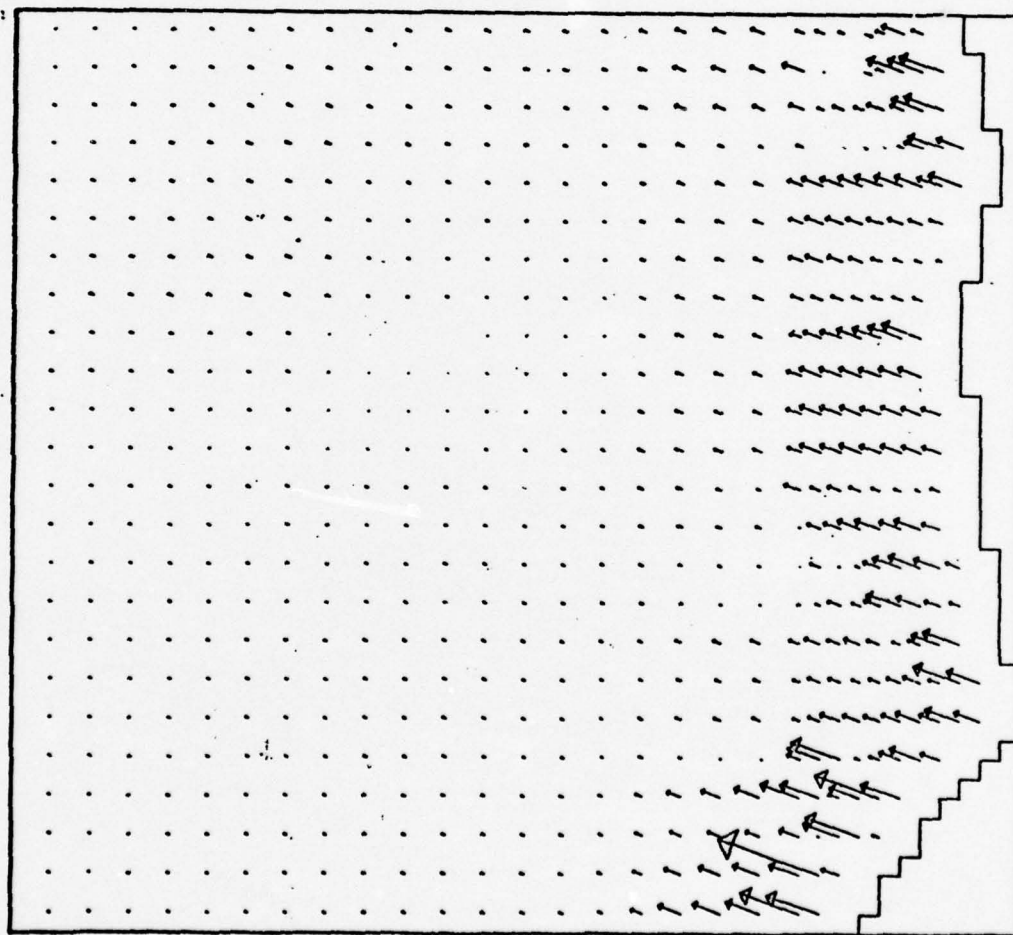
VECTOR LENGTH = 1 FOOT/SEC = 1.0



17 MPH.SE

10.0 FT
500.0

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF
VECTOR LENGTH = 1 FOOT/SEC =



17 MPN.SE

20.0 FT

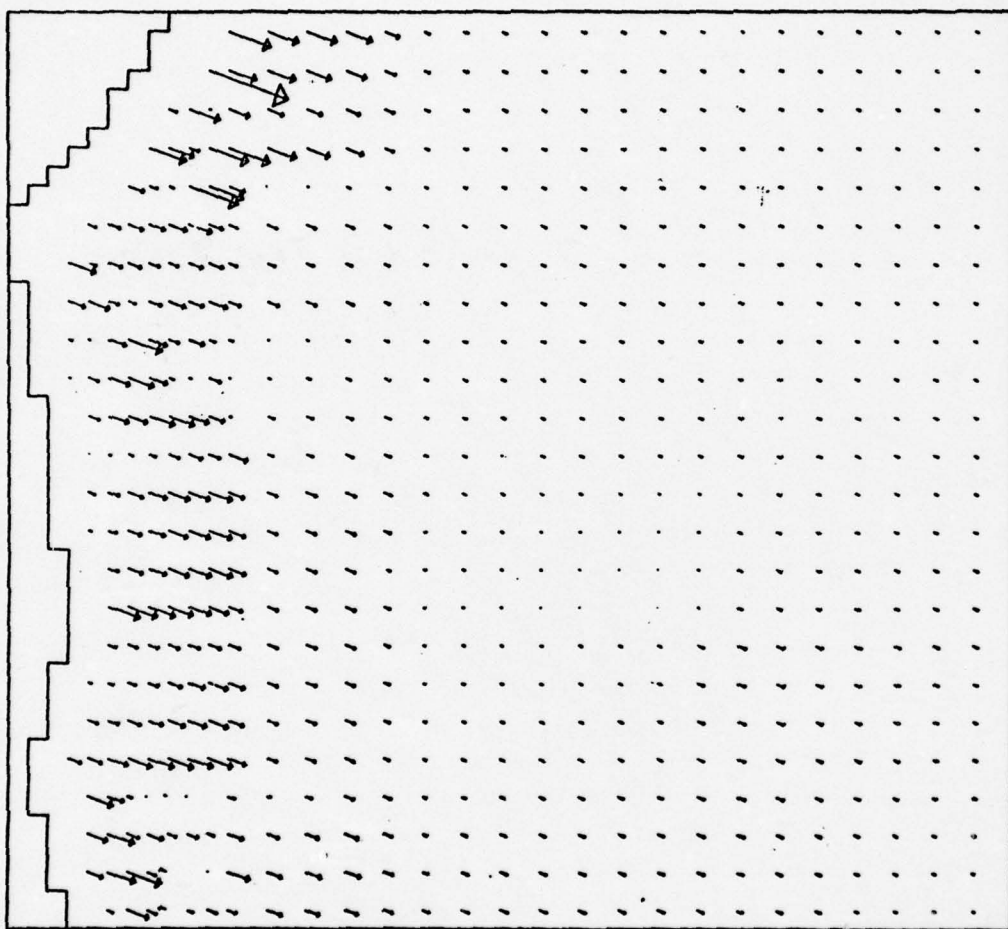
OF

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

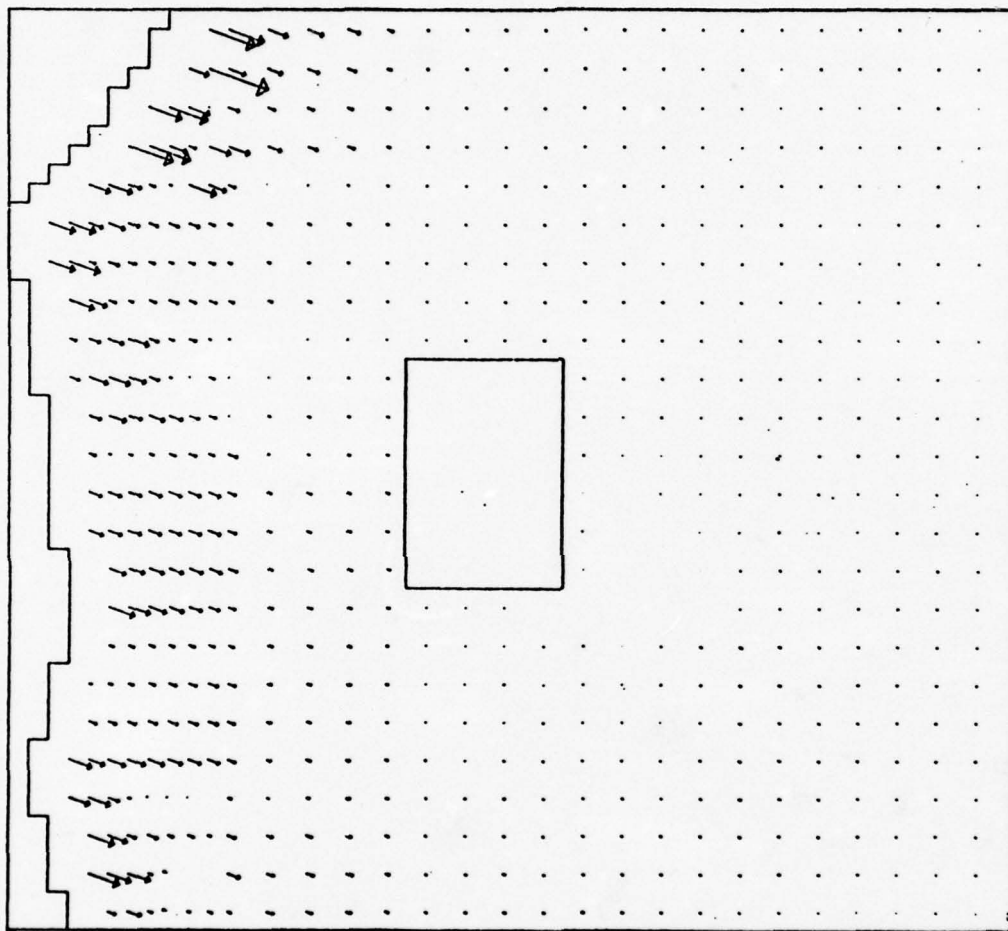
VECTOR LENGTH = 1 FOOT/SEC =

500.0

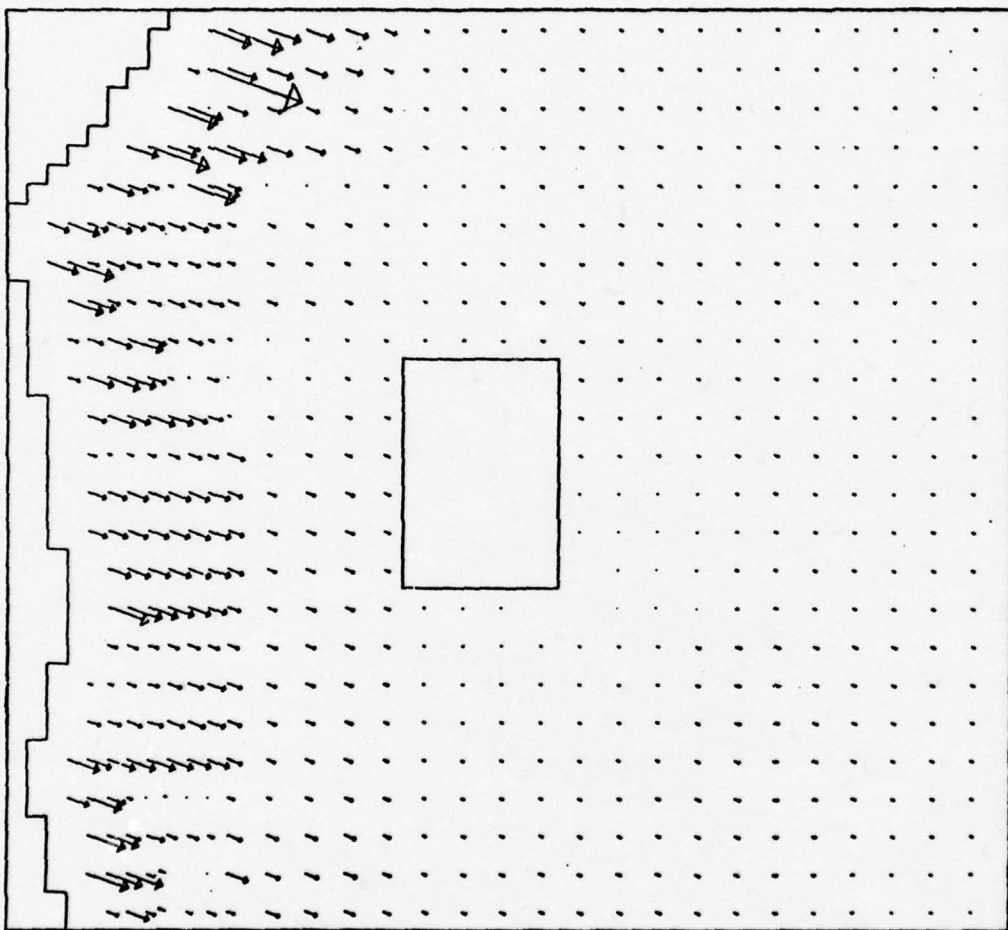
VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF 30.0 FT
VECTOR LENGTH = 1 FOOT/SEC = 500.0 17 MPH, SE

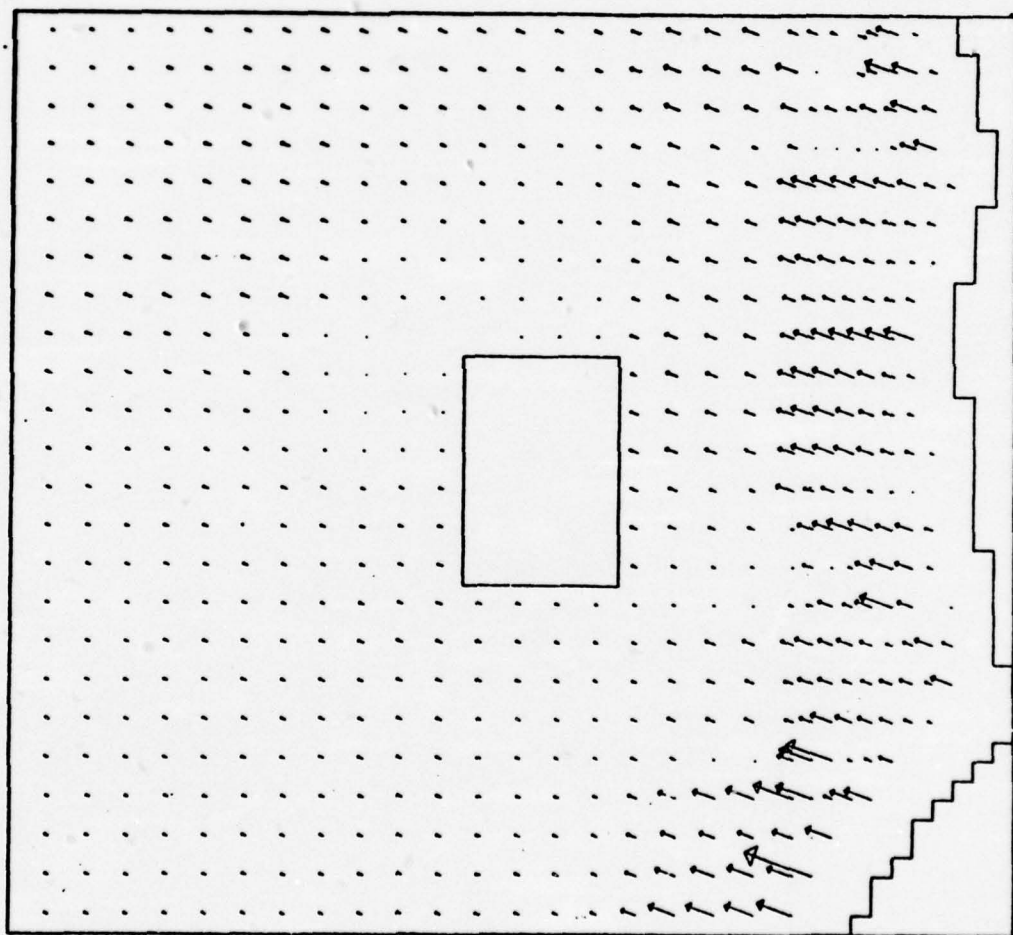


VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF 10.0 FT
VECTOR LENGTH = 1 FOOT/SEC = 500.0 17 MPH, SE



VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF 20.0 FT
VECTOR LENGTH = 1 FOOT/SEC = 500.0 17 MPH, SE





17 MPH, SE

30.0 FT

500.0

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

VECTOR LENGTH = 1 FOOT/SEC

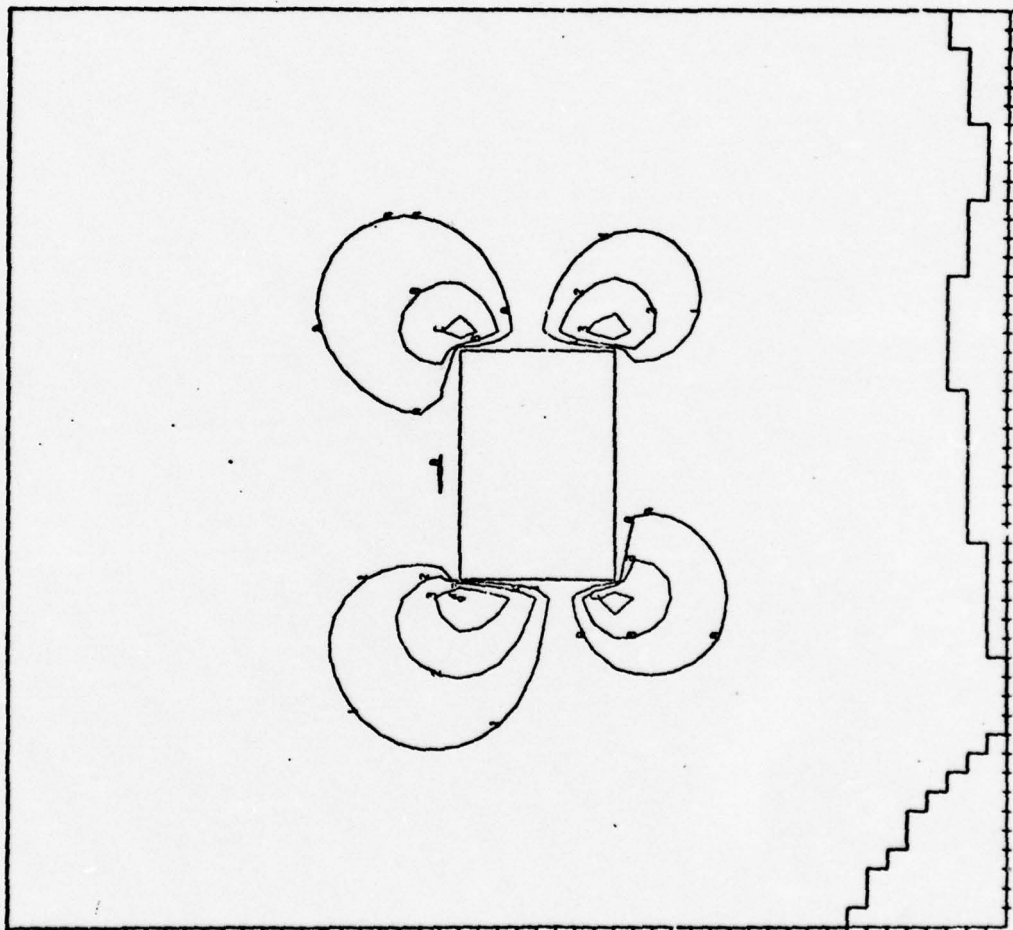


$U, D = 0, W = 175E$

SYMBOLS	CONTOUR LEVELS
1	0.050
2	0.100
3	0.200
4	0.400
5	0.600
6	1.000
7	1.600
8	2.000
9	3.000
A	4.000
B	6.000
C	10.000
D	16.000
E	25.000
F	40.000
G	63.000
H	100.000

SYMBOLS 1 2 3 4 5 6 7 8 9 A B C D E F G H I

CONTOUR LEVELS
 0.050
 0.100
 0.200
 0.400
 0.600
 0.800
 1.000
 1.500
 2.000
 -0.050
 -0.100
 -0.200
 -0.400
 -0.600
 -0.800
 -1.000
 -1.500
 -2.000



CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

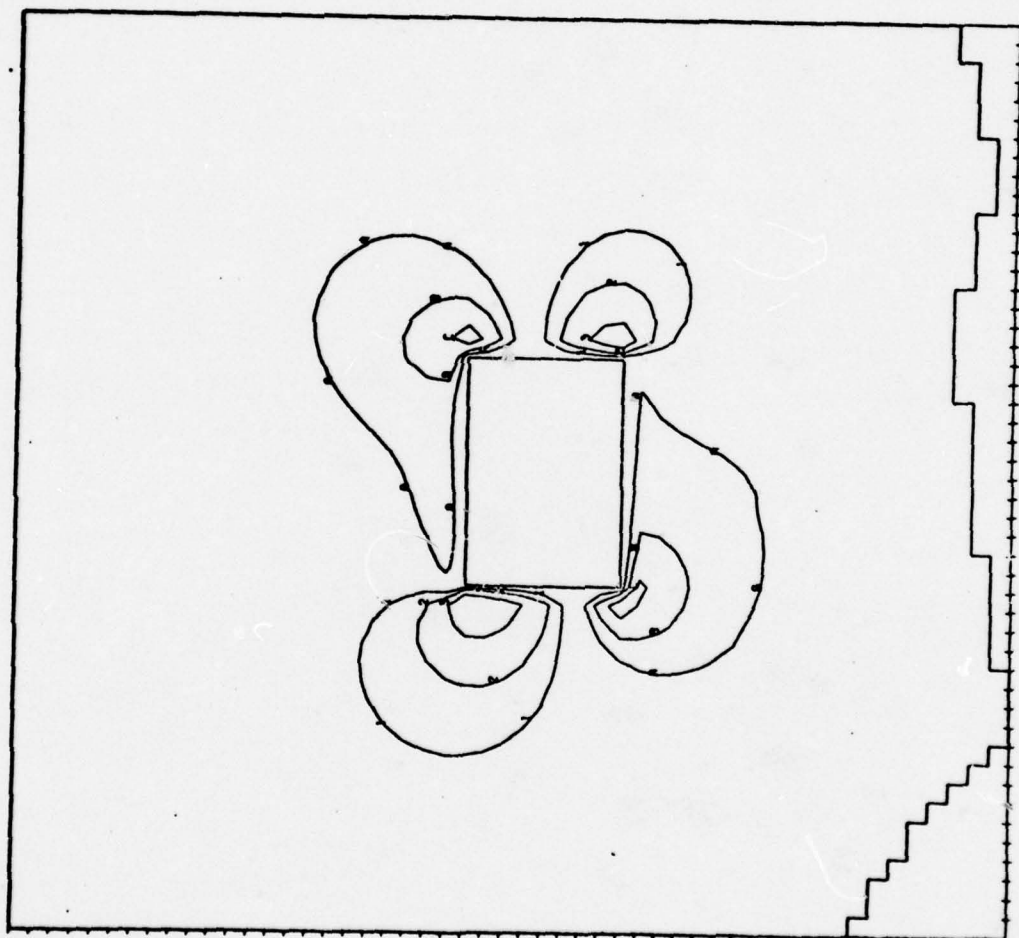
V.D=0.H=17SE

SYMBOLS

CONTOUR LEVELS

0.050
0.100
0.200
0.400
0.600
0.800
1.000
1.600
2.000
-0.050
-0.100
-0.200
-0.400
-0.600
-0.800
-1.000
-1.600
-2.000

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

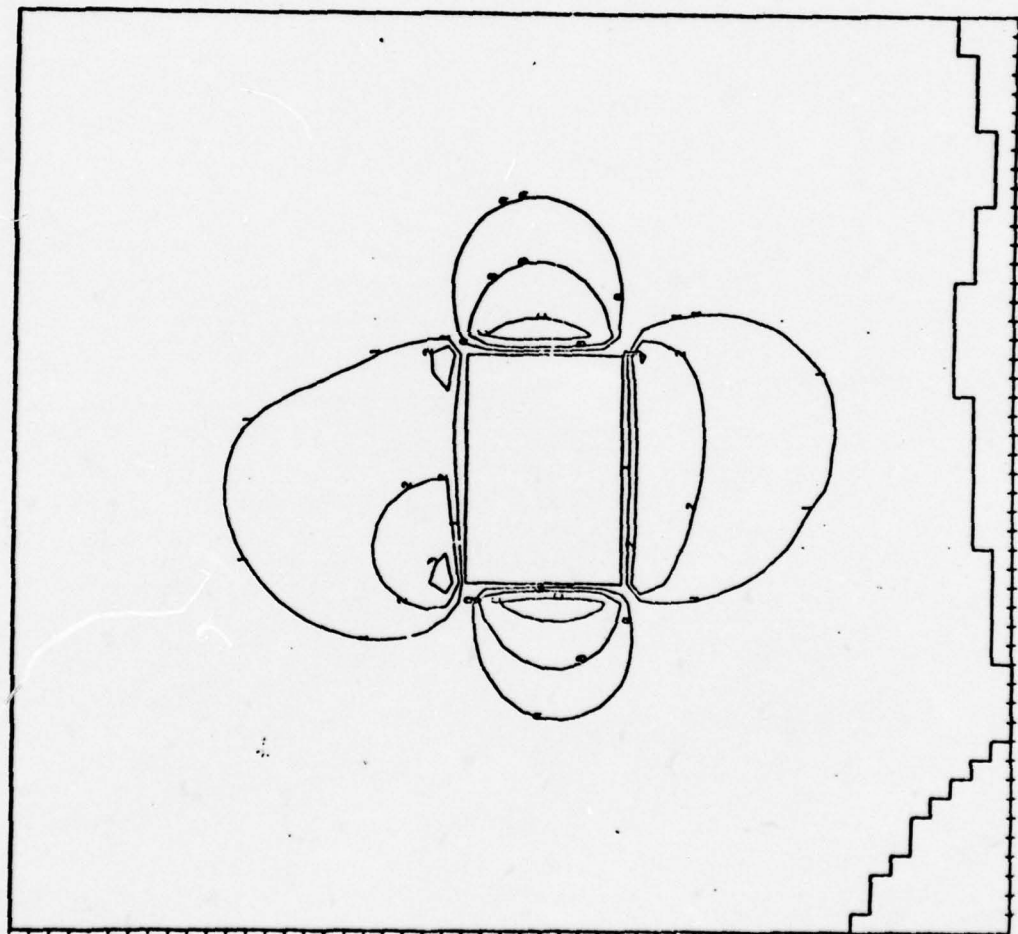


CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

M.O.D. = 17SE

SYMBOLS CONTOUR LEVELS

1	0.050
2	0.100
3	0.200
4	0.400
5	0.600
6	0.800
7	1.000
8	1.500
9	2.000
10	-0.050
11	-0.100
12	-0.200
13	-0.400
14	-0.600
15	-0.800
16	-1.000
17	-1.500
18	-2.000



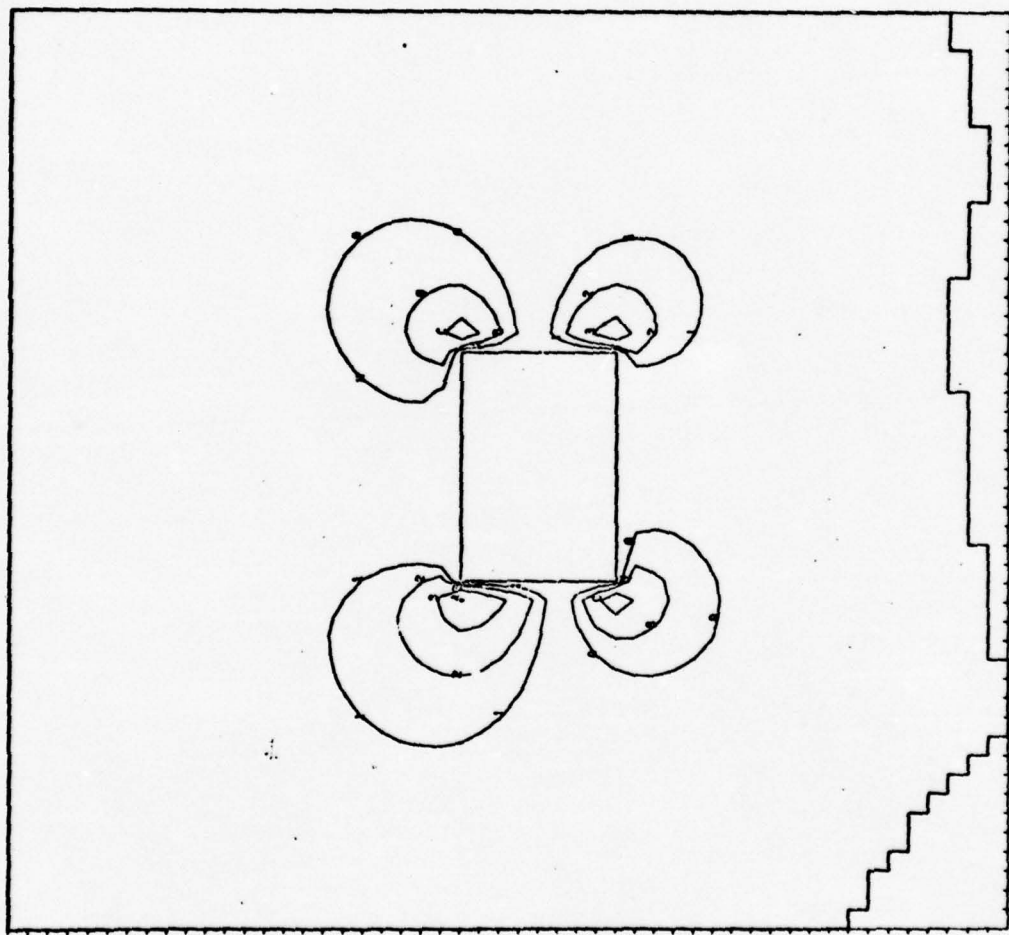
CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

U.O-15.W-17SE

SYMBOLS

CONTOUR LEVELS

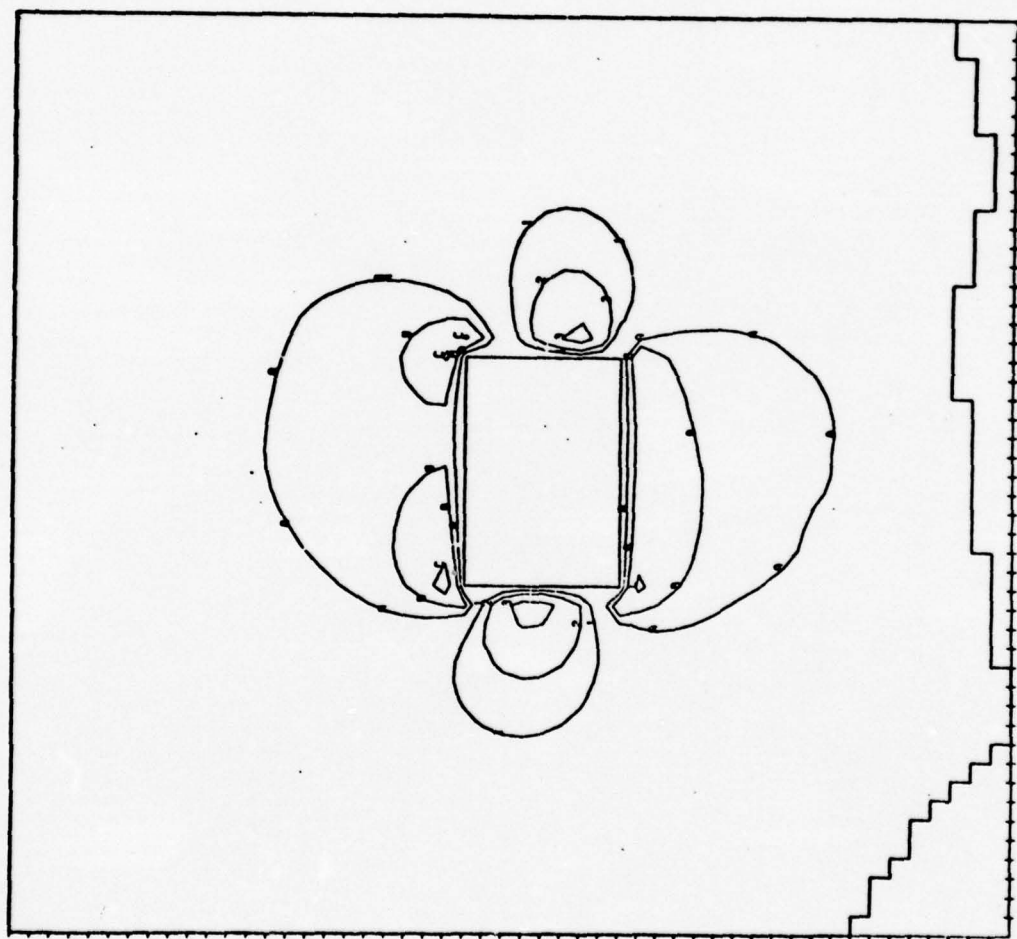
0.050
0.100
0.200
0.400
0.600
0.800
1.000
1.200
1.400
1.600
1.800
2.000
-0.050
-0.100
-0.200
-0.400
-0.600
-0.800
-1.000
-1.200
-1.400
-1.600
-1.800
-2.000



CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

V.O=15.N=17SE

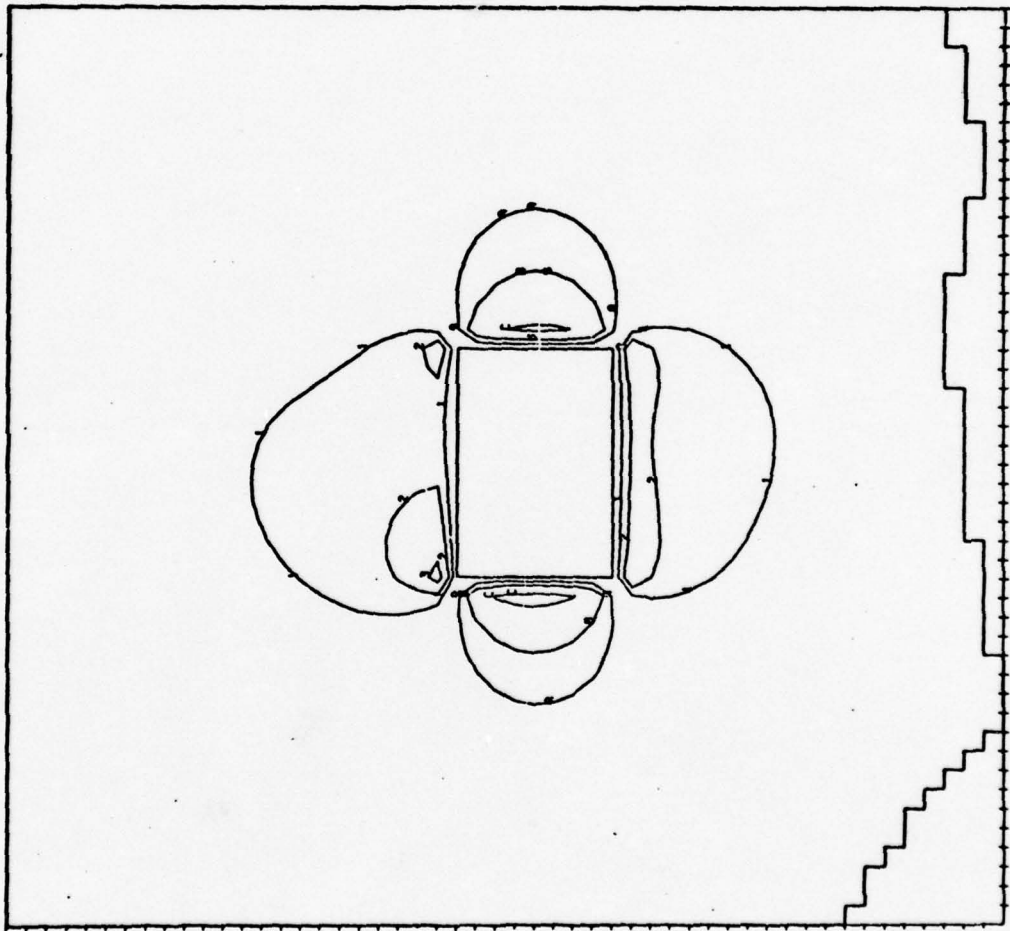
CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

[illegible]

0.050
0.100
0.200
0.400
0.600
0.800
1.000
1.500
↑ 2.000
- 0.050
- 0.100
- 0.200
- 0.400
- 0.600
- 0.800
- 1.000
- 1.500
- 2.000

SYMBOLS
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

CONTOUR LEVELS
 0.050
 0.100
 0.200
 0.400
 0.600
 0.800
 1.000
 1.500
 2.000
 -0.050
 -0.100
 -0.200
 -0.400
 -0.600
 -0.800
 -1.000
 -1.500
 -2.000



U.D=30.H=17SE

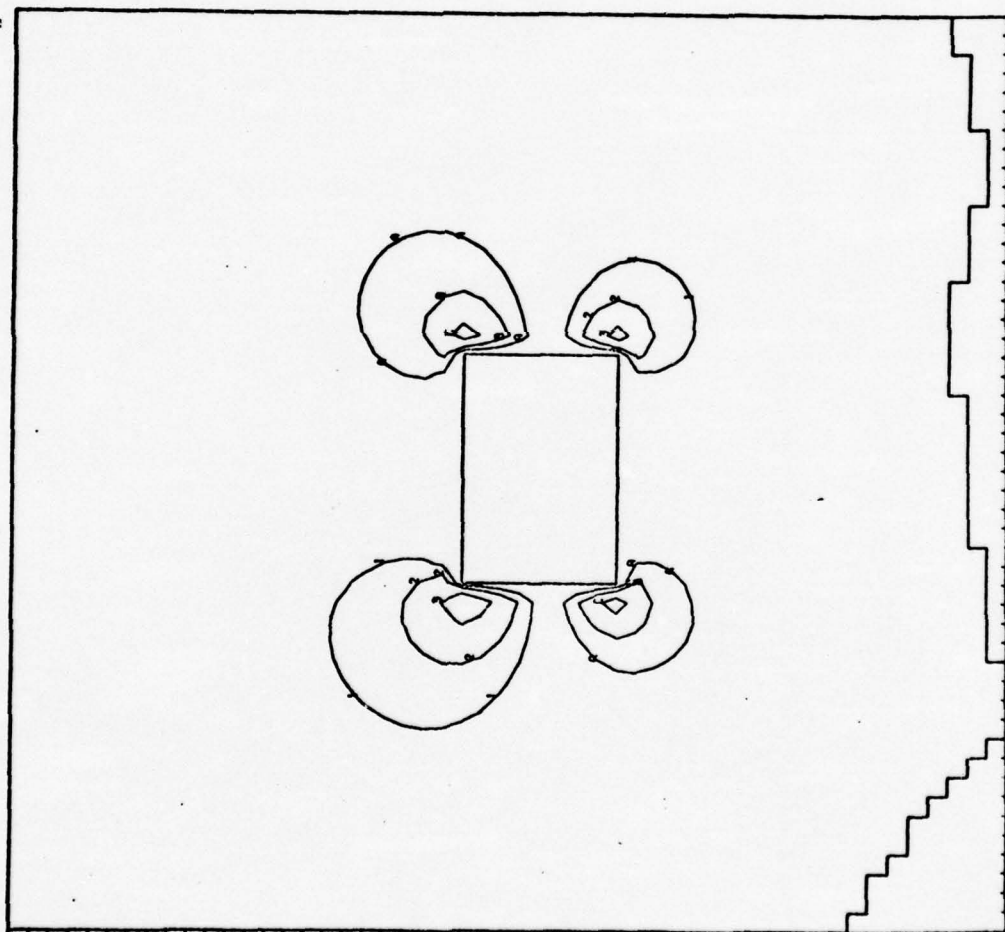
CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

SYMBOLS

CONTOUR LEVELS

0.050
0.100
0.200
0.400
0.600
0.800
1.000
1.500
2.000
-0.050
-0.100
-0.200
-0.400
-0.600
-0.800
-1.000
-1.500
-2.000

1 2 3 4 5 6 7 8 9 A B C D E F G H I



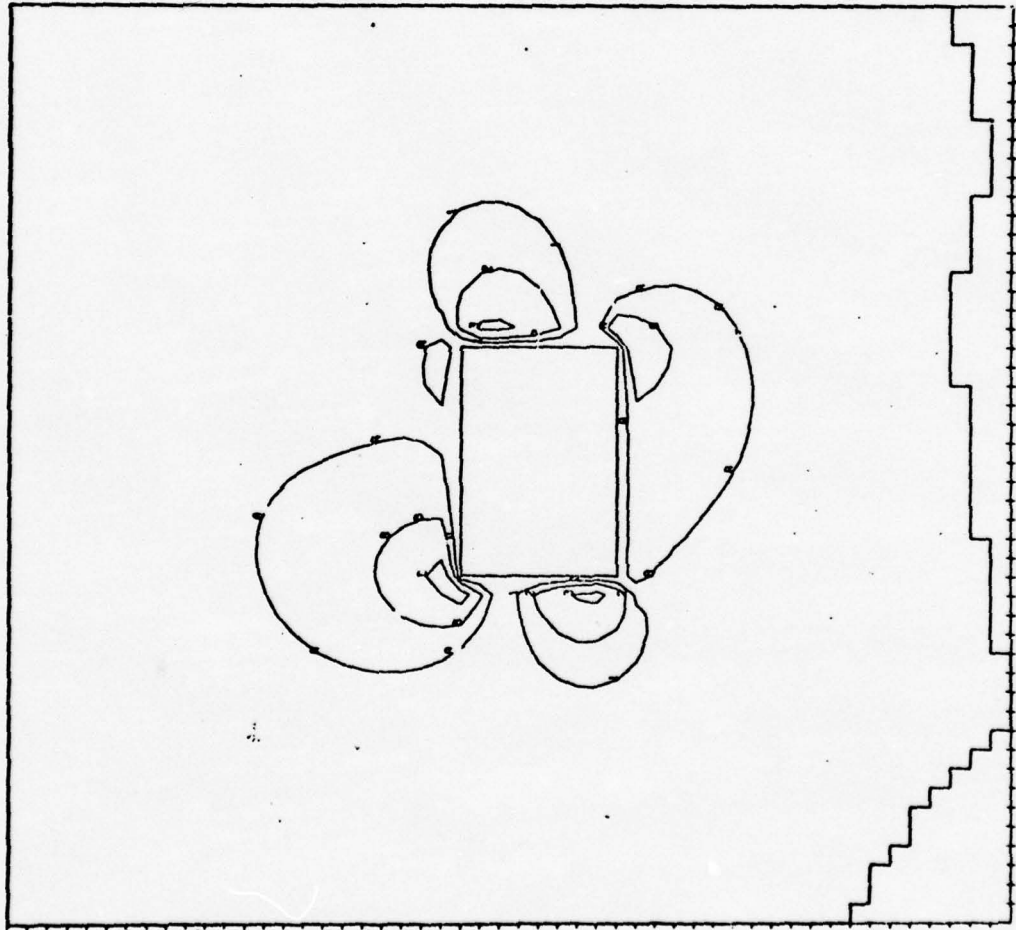
CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

V.0 00.0 1.00

SYMBOLS

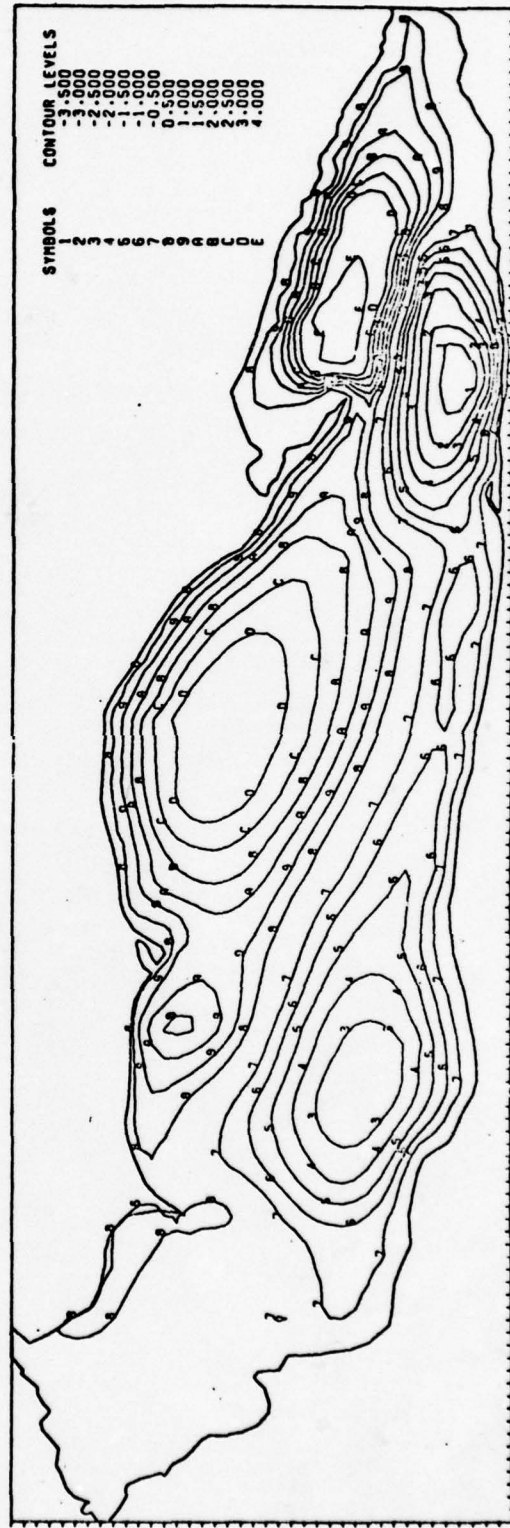
CONTOUR LEVELS

0.050
0.100
0.200
0.400
0.600
0.800
1.000
1.500
2.000
-0.050
-0.100
-0.200
-0.400
-0.600
-0.800
-1.000
-1.500
-2.000



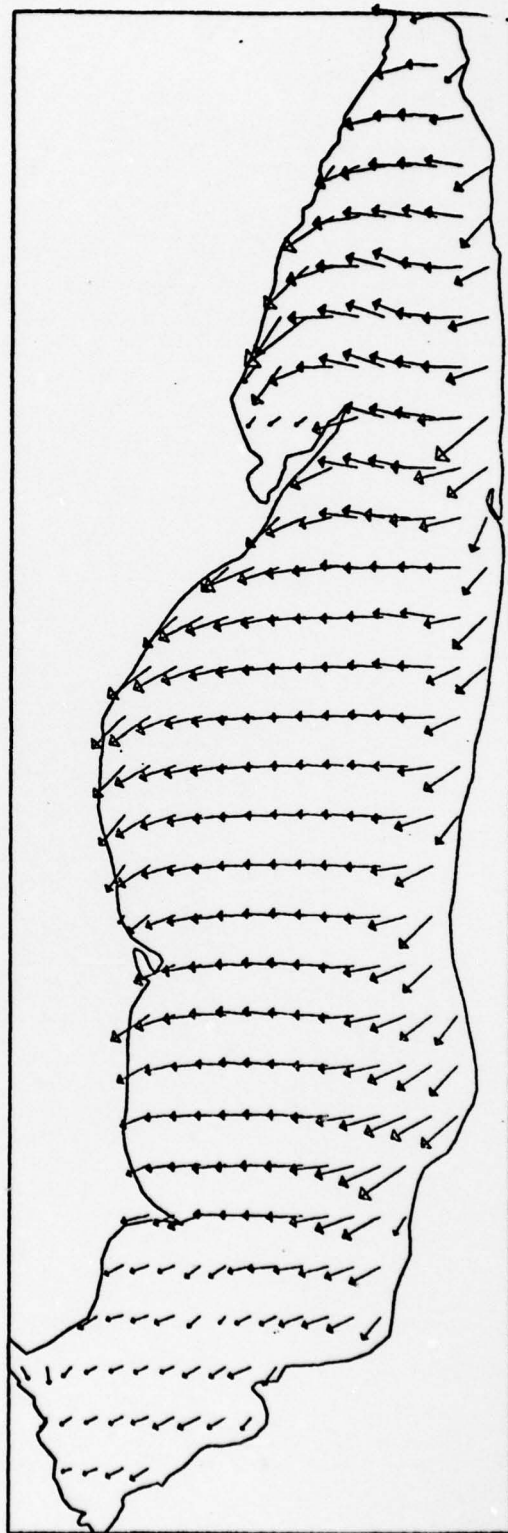
CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

M.D.30.W.17SE



HA=17MPH.ESE

CONTOURS OF STREAM FUNCTION FOR LAKE ERIE -- FULL LAKE



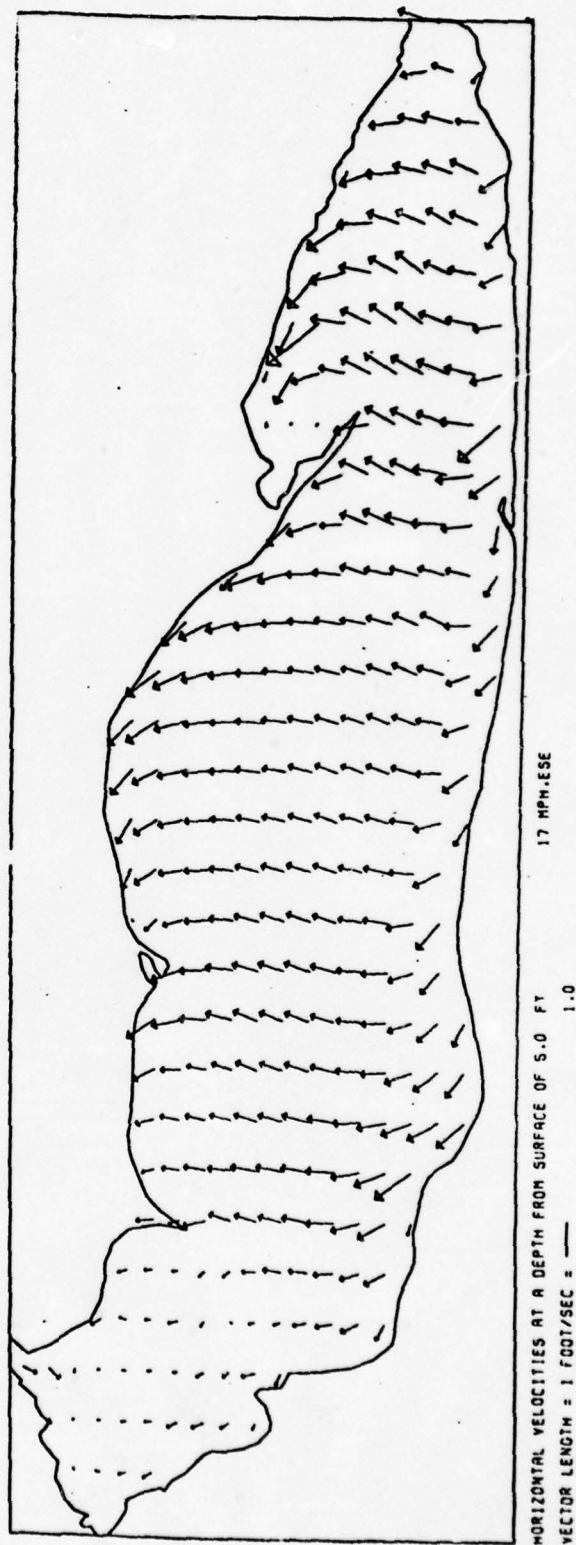
17 MPH-ESE

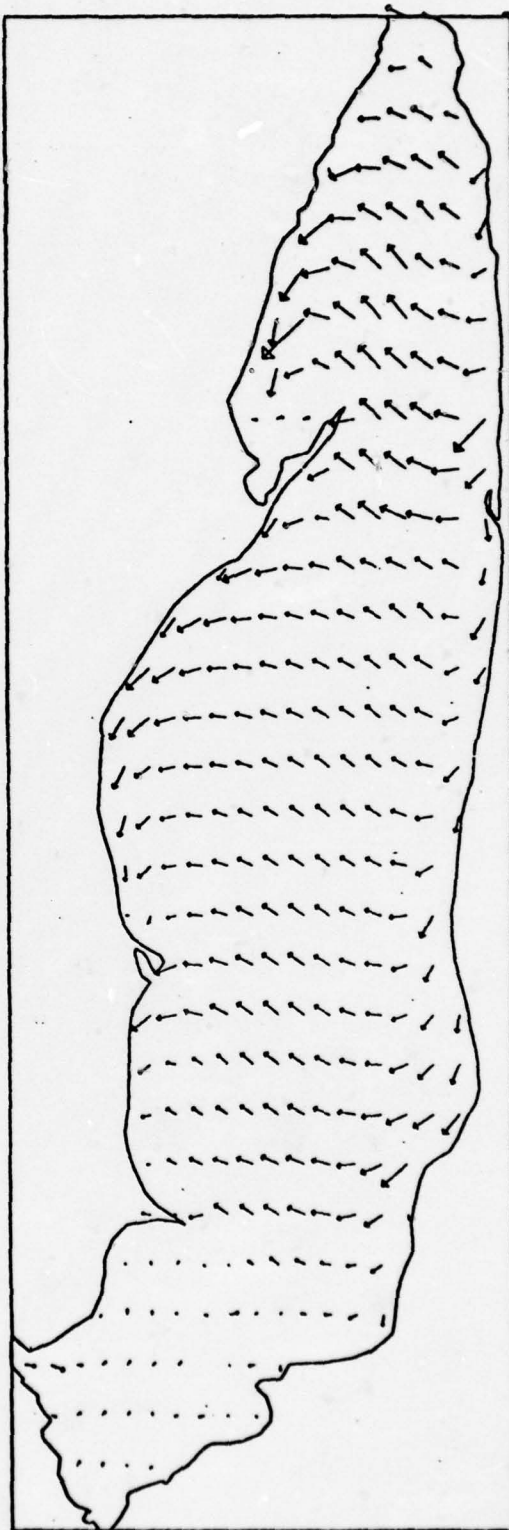
0.0 FT

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 0.0 FT

VECTOR LENGTH = 1 FOOT/SEC = —

1.0

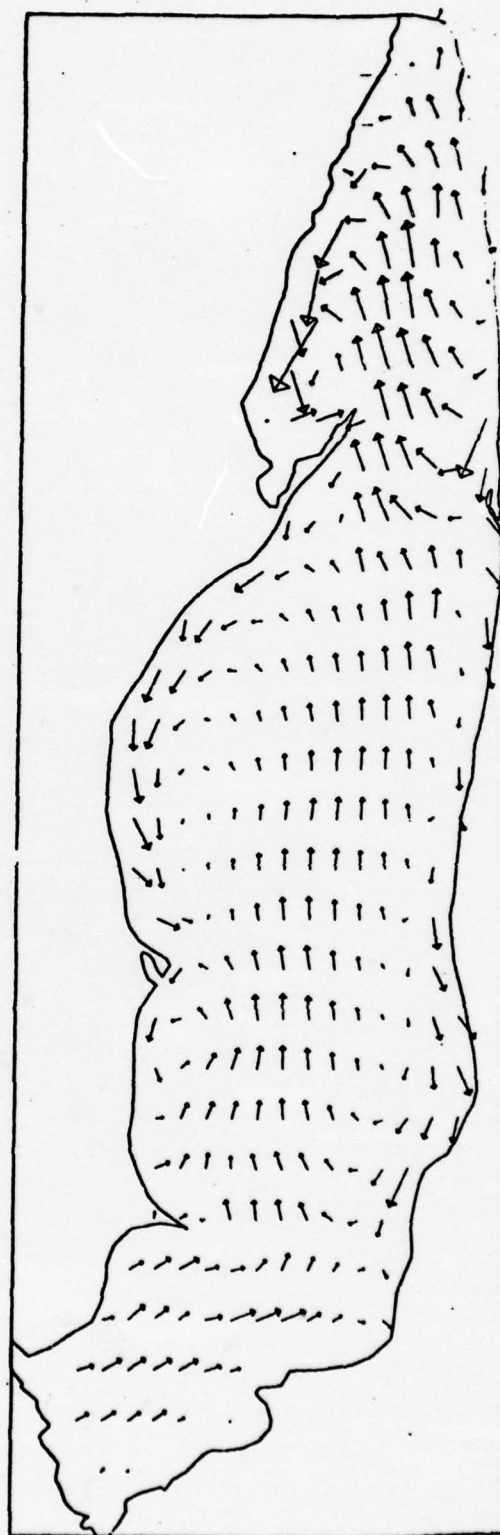




17 MPH, ESE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 10.0 FT

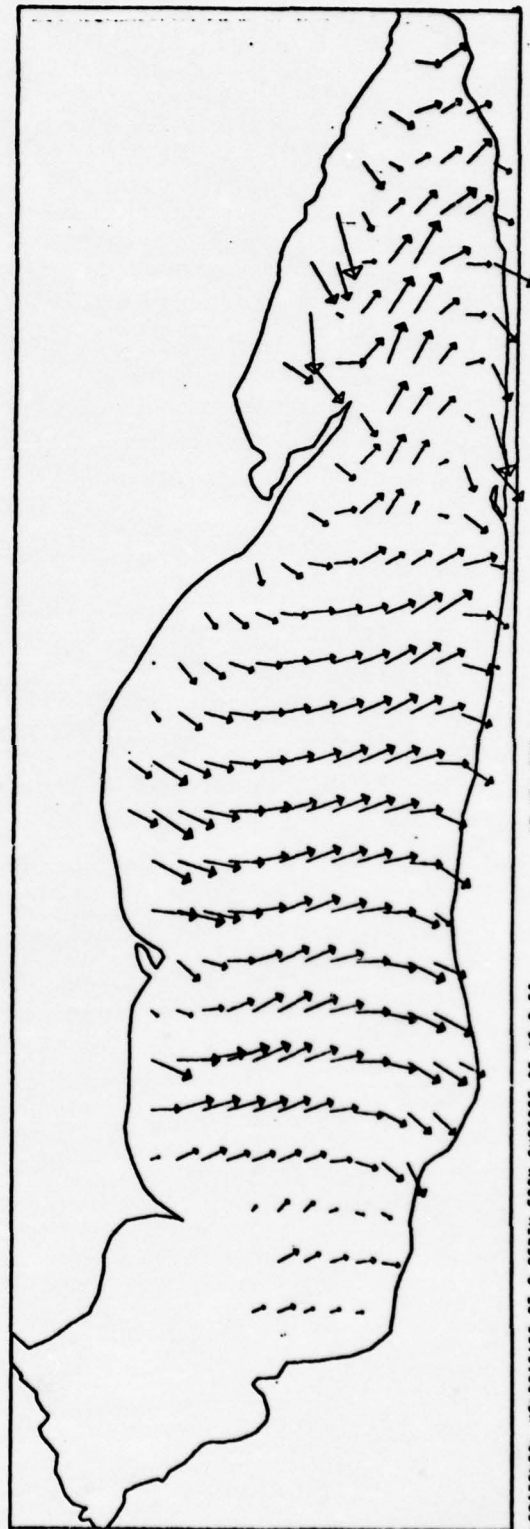
VECTOR LENGTH = 1 FOOT/SEC = 1.0



17 MPH.ESE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 20.0 FT

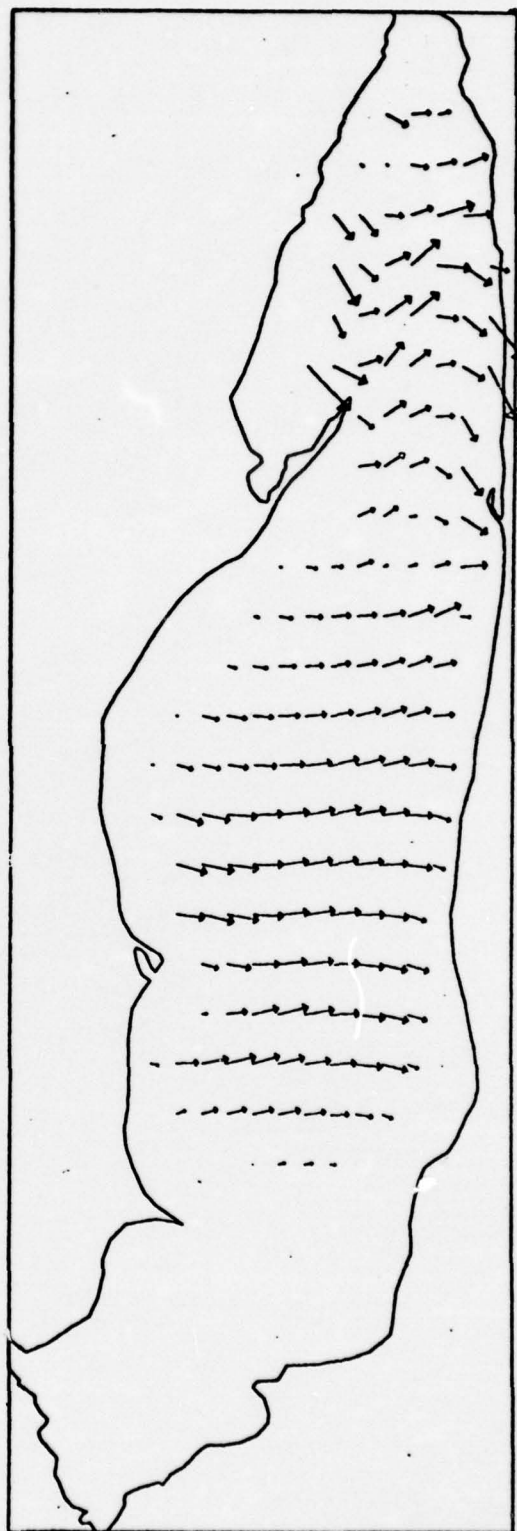
VECTOR LENGTH = 1 FCS/SEC = 1.0



17 MPH-ESE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 40.0 FT

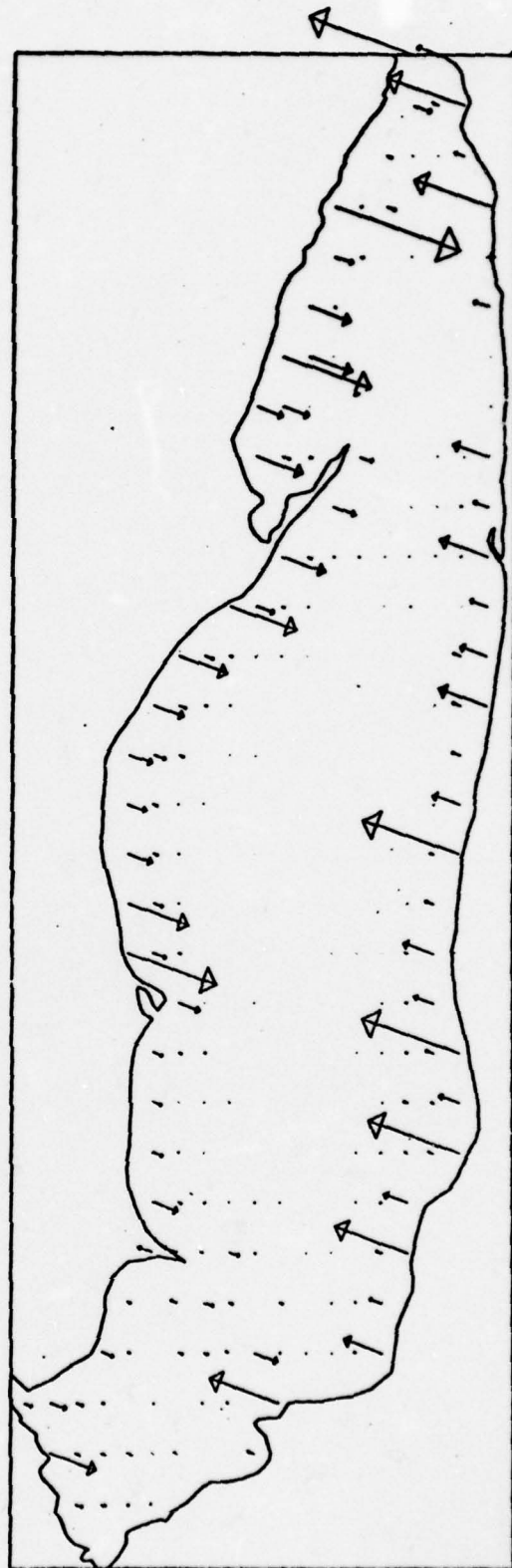
VECTOR LENGTH = 1 FOOT/SEC = 1.0



17 MPH ESE

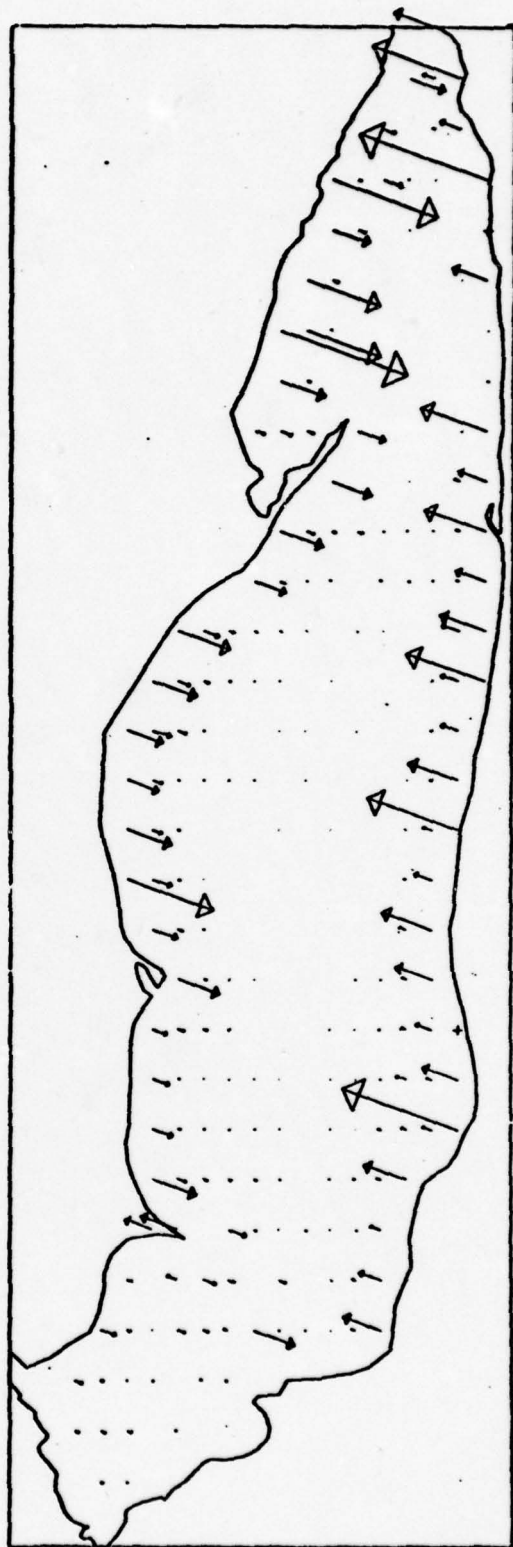
HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 60.0 FT

VECTOR LENGTH = 1 FOOT/SEC = 1.0



VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF 10.0 FT
VECTOR LENGTH = 1 FOOT/SEC = 1200.0

17 MPH.ESE



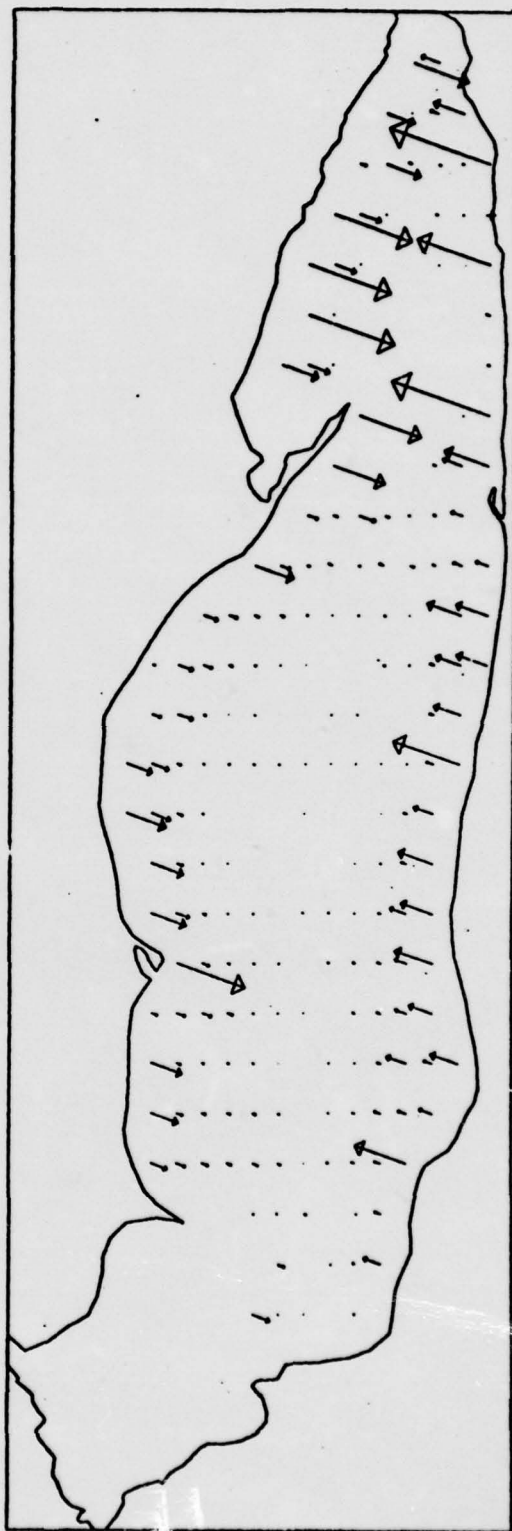
17 MPH.ESE

20.0 FT

1200.0

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

VECTOR LENGTH = 1 FOOT/SEC =

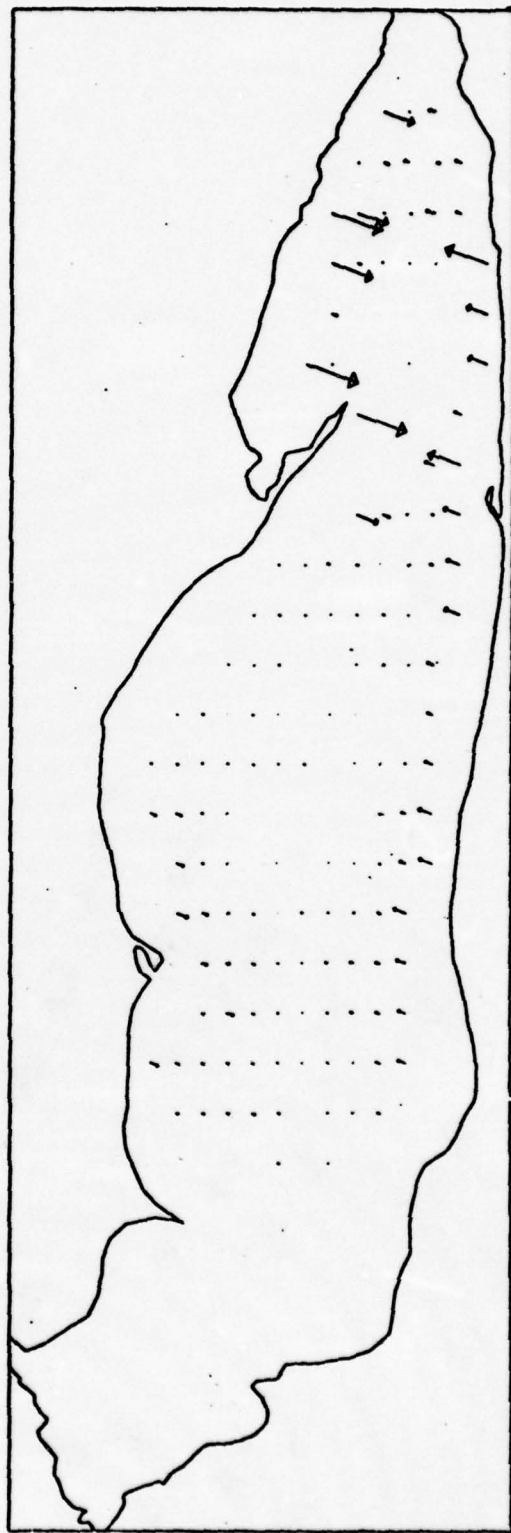


17 RPM.ESE

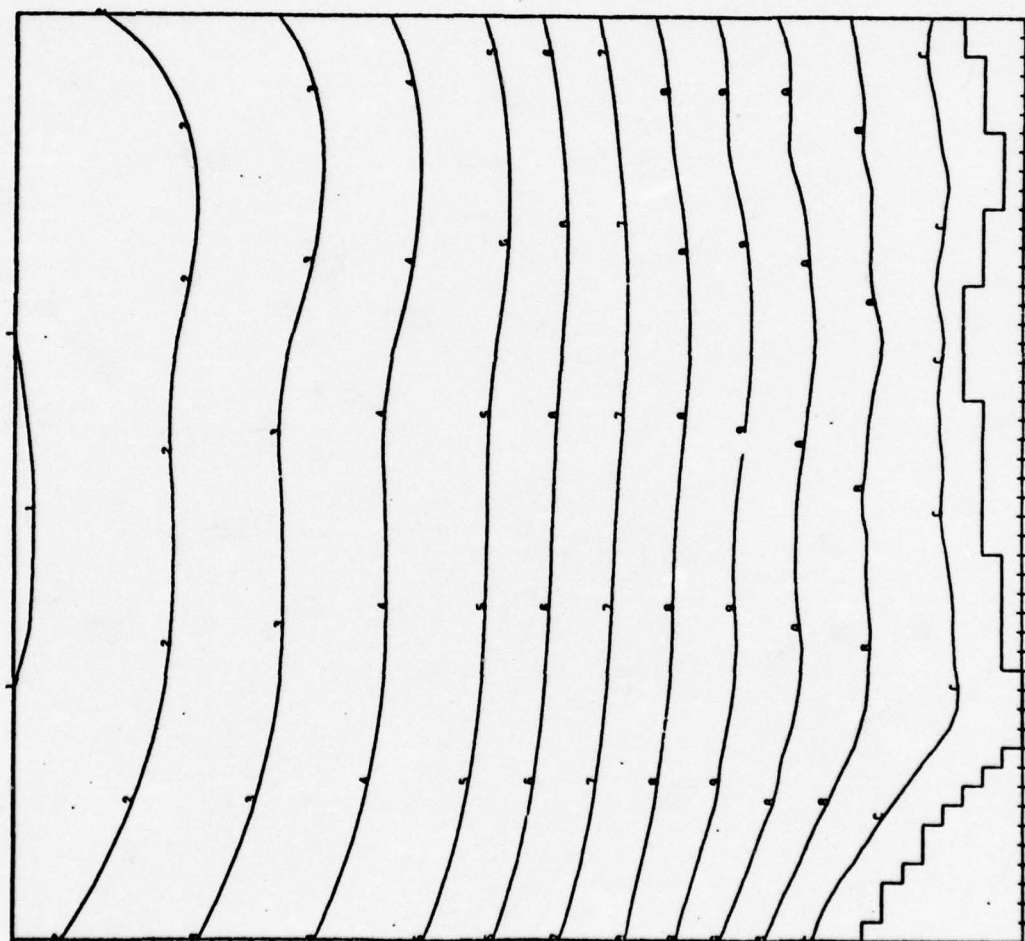
40.0 FT

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

VECTOR LENGTH = 1 FT/SEC =



VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF 60.0 FT 17 MPH-ESE
VECTOR LENGTH = 1 FOOT/SEC = 1200.0

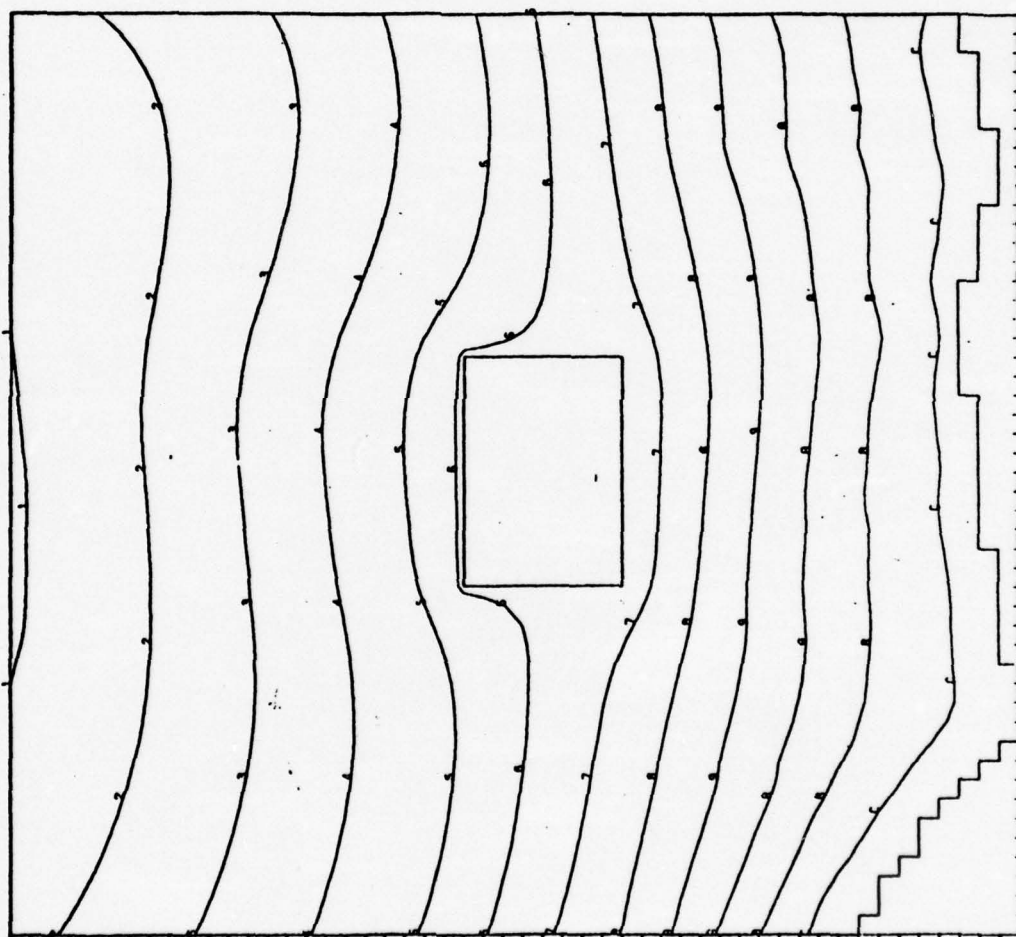


SYMBOLS
 1
 2
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 15
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 84
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 89
 90
 91
 92
 93
 94
 95
 96
 97
 98
 99
 100

CONTOUR LEVELS
 -2.700
 -2.400
 -2.100
 -1.800
 -1.500
 -1.200
 -0.900
 -0.600
 -0.300
 0.000
 0.300
 0.600
 0.900
 1.200
 1.500
 1.800
 2.100
 2.400
 2.700

CONTOURS OF STREAM FUNCTION FOR LAKE ERIE -- NEARSHORE

WR=17MPH.ESE

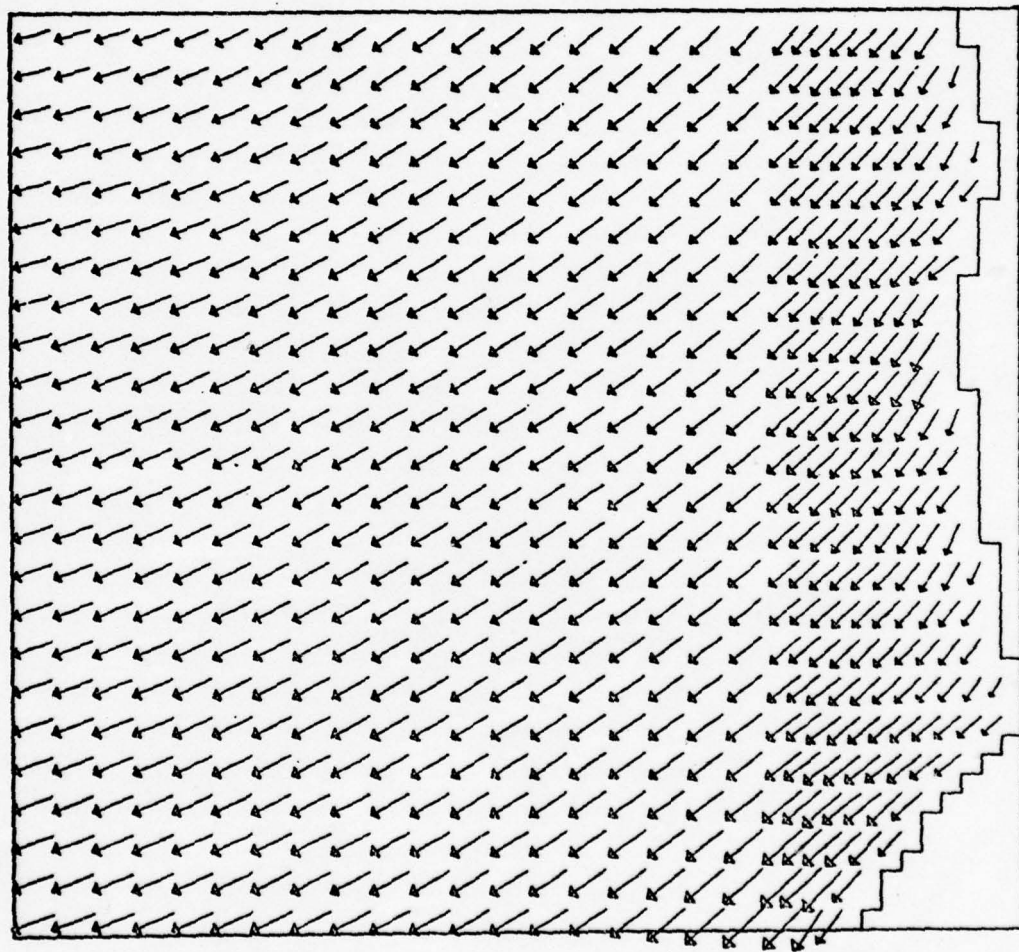


SYMBOLS
1 2 3 4 5 6 7 8 9 A B C

CONTOUR LEVELS
-2.700
-2.400
-2.100
-1.800
-1.500
-1.200
-0.900
-0.700
-0.500
-0.300
-0.100

CONTOURS OF STREAM FUNCTION FOR LAKE ERIE -- NEARSHORE

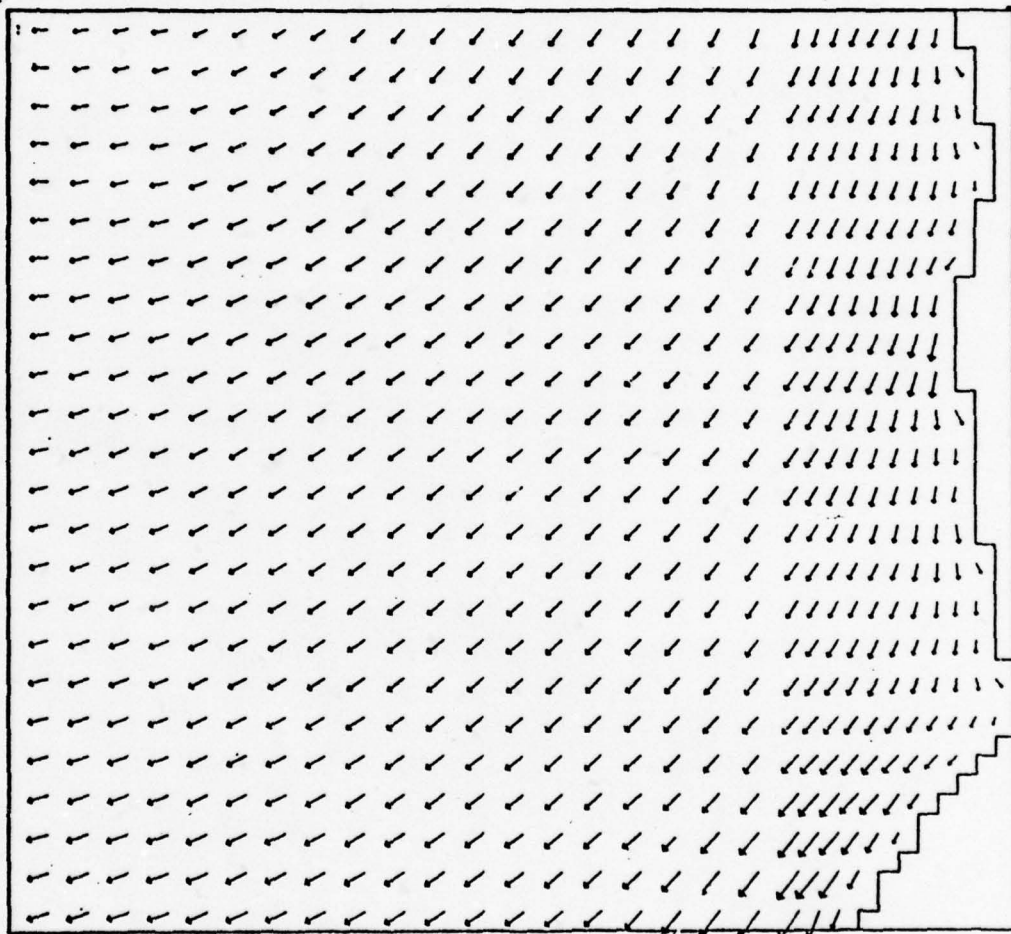
WA=17MPH.ESE



17 MPH/SEC

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 0.0 FT

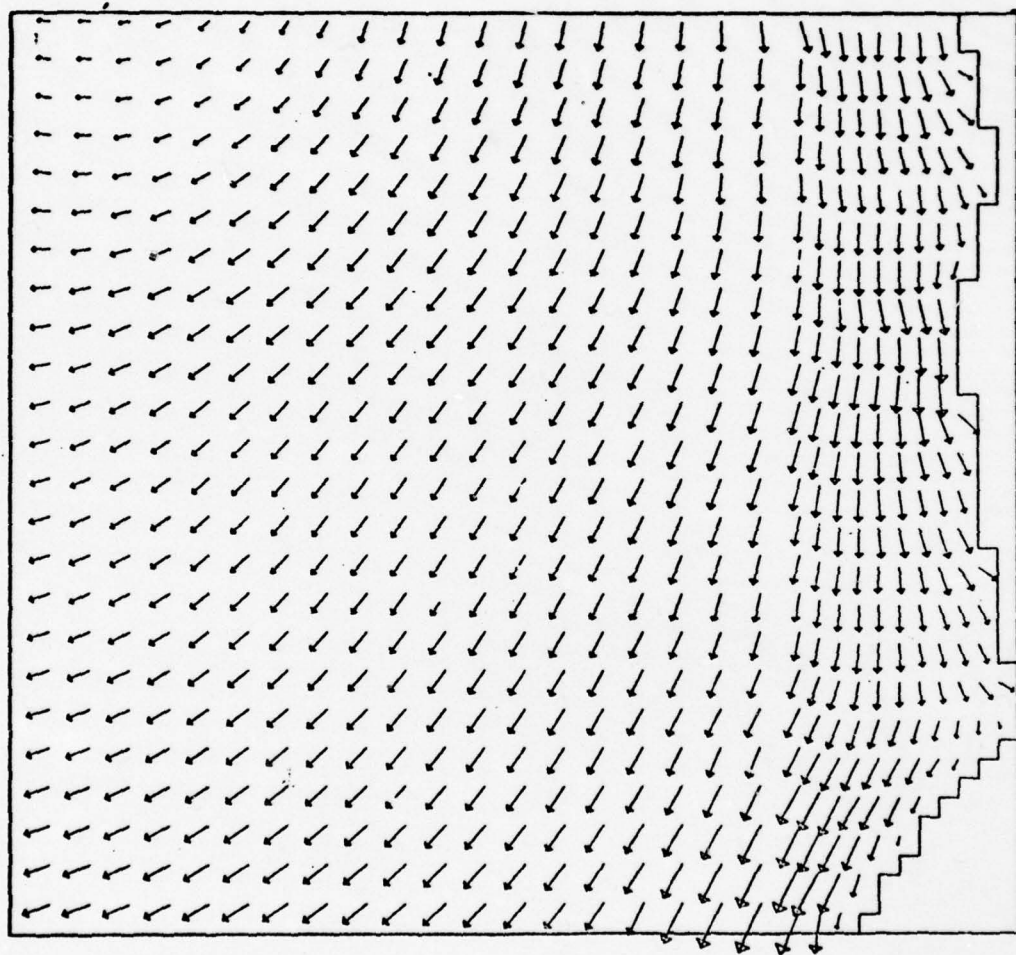
VECTOR LENGTH = 1 FOOT/SEC = 1.0



17 MPH.ESE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 10.0 FT

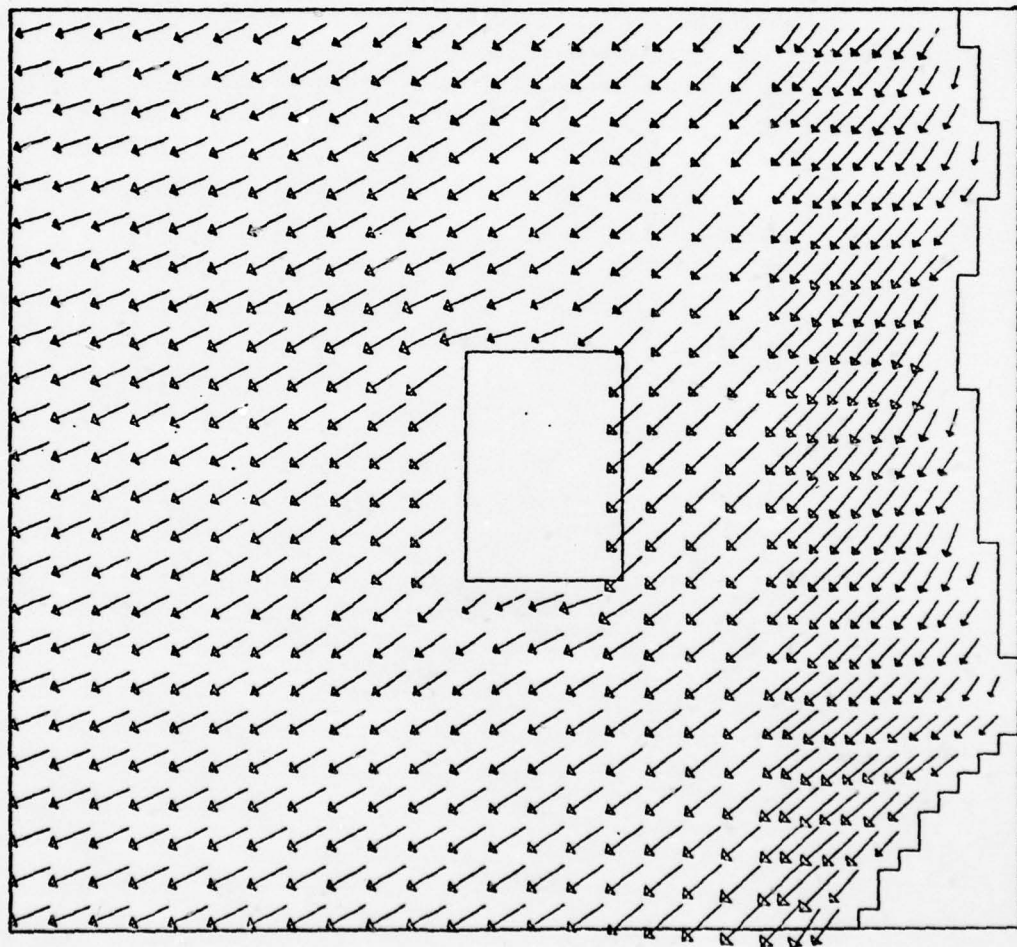
VECTOR LENGTH = 1 FOOT/SEC = ——— 1.0

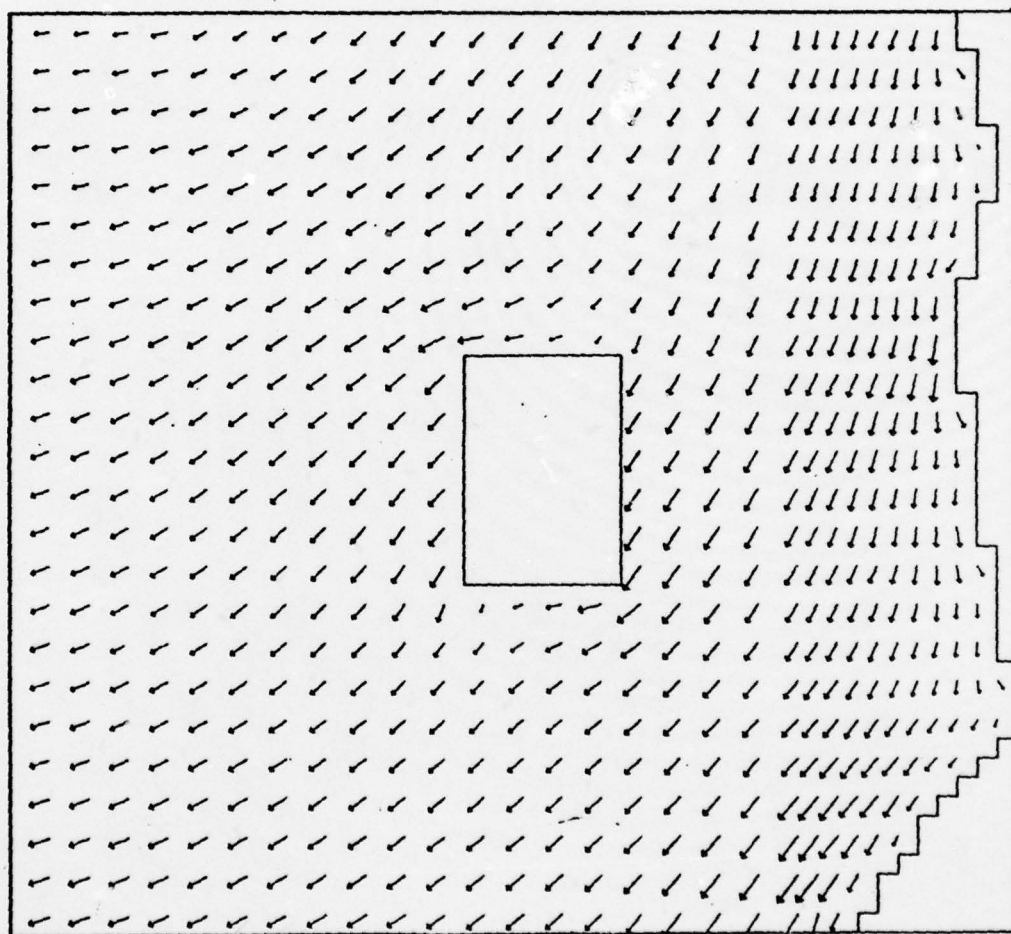


17 MPH.ESE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 15.0 FT

VECTOR LENGTH = 1 FOOT/SEC = 1.0



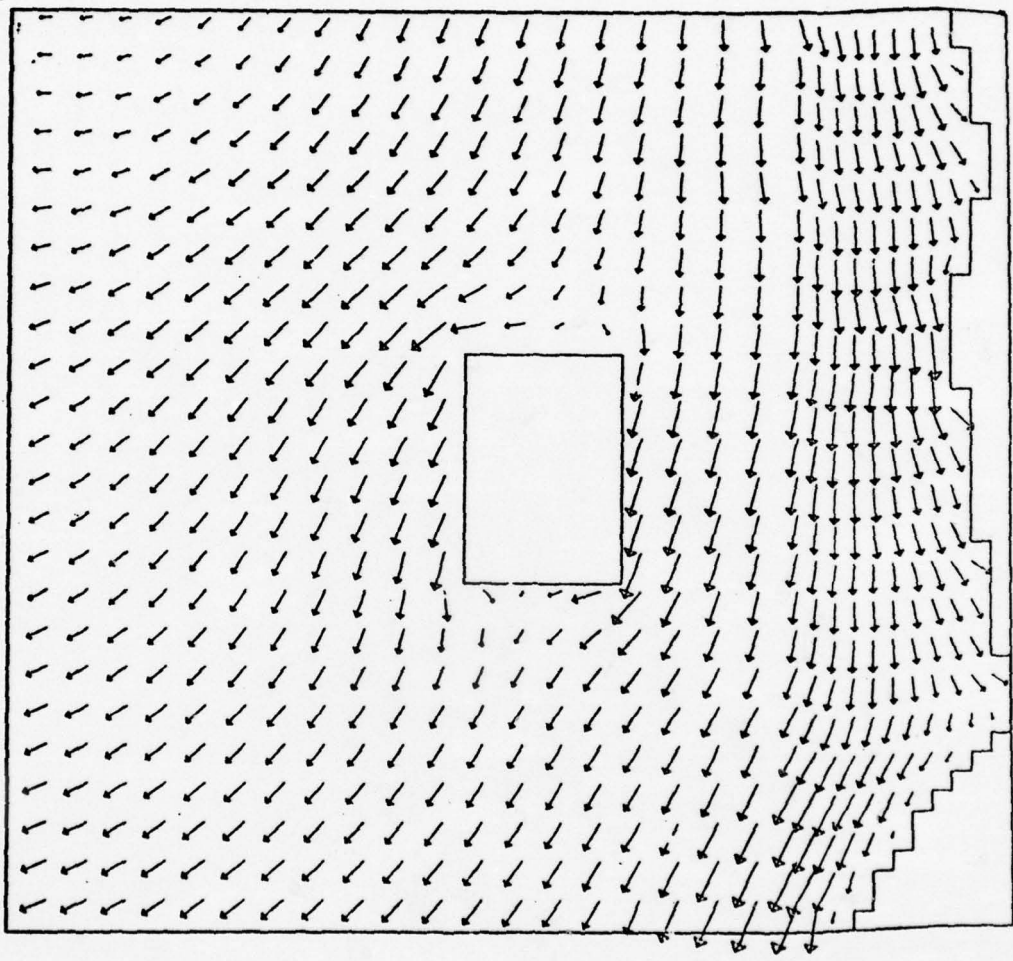


17 MPH, ESE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 10.0 FT

1.0

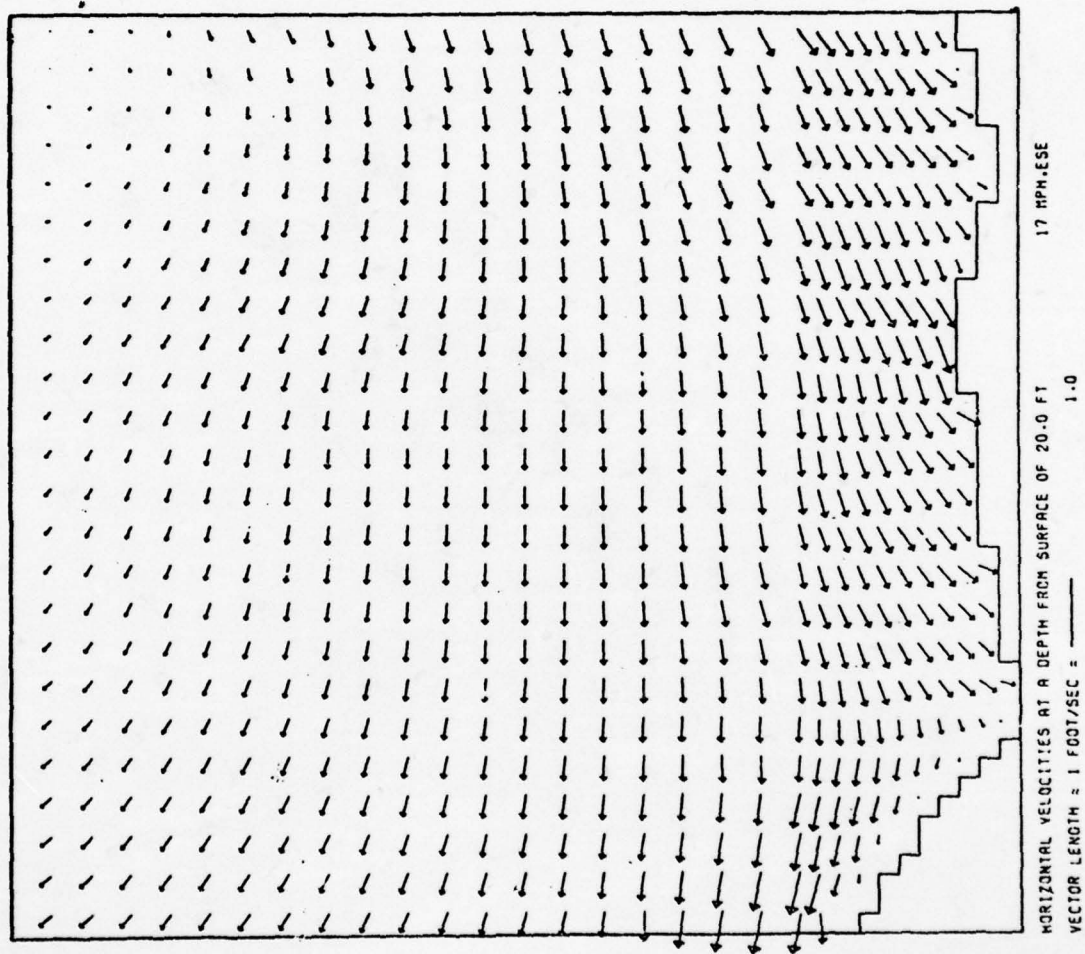
VECTOR LENGTH = 1 FOOT/SEC = —

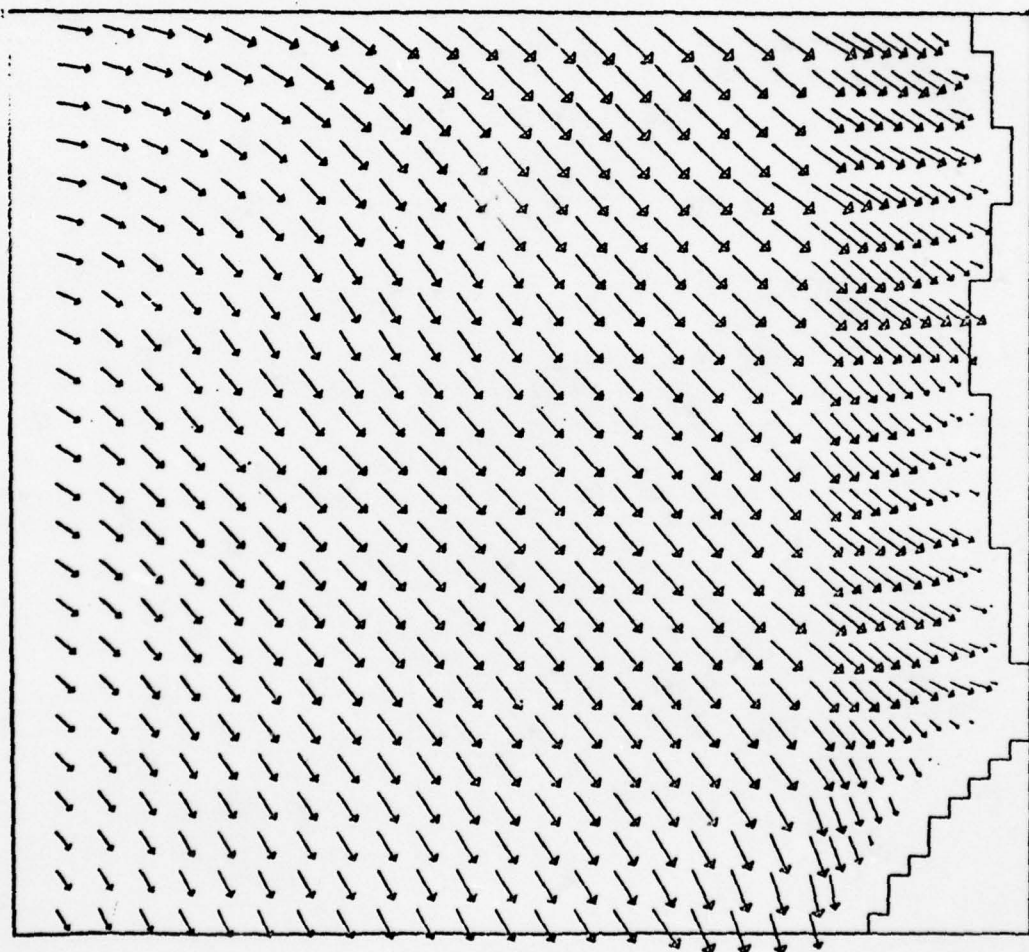


17 MPH-ESE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 15.0 FT

VECTOR LENGTH = 1 FOOT/SEC = 1.0

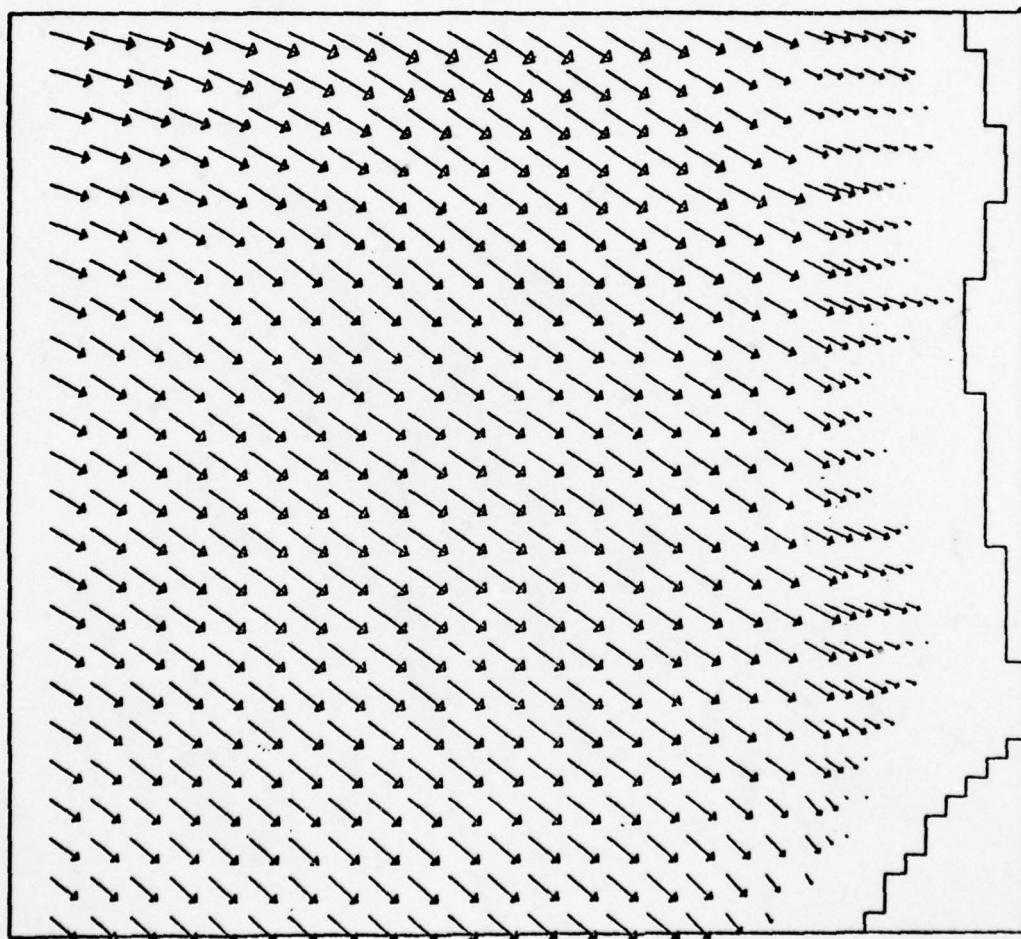




17 MPH, ESE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 30.0 FT

VECTOR LENGTH = 1 FOOT/SEC = _____ 1.0

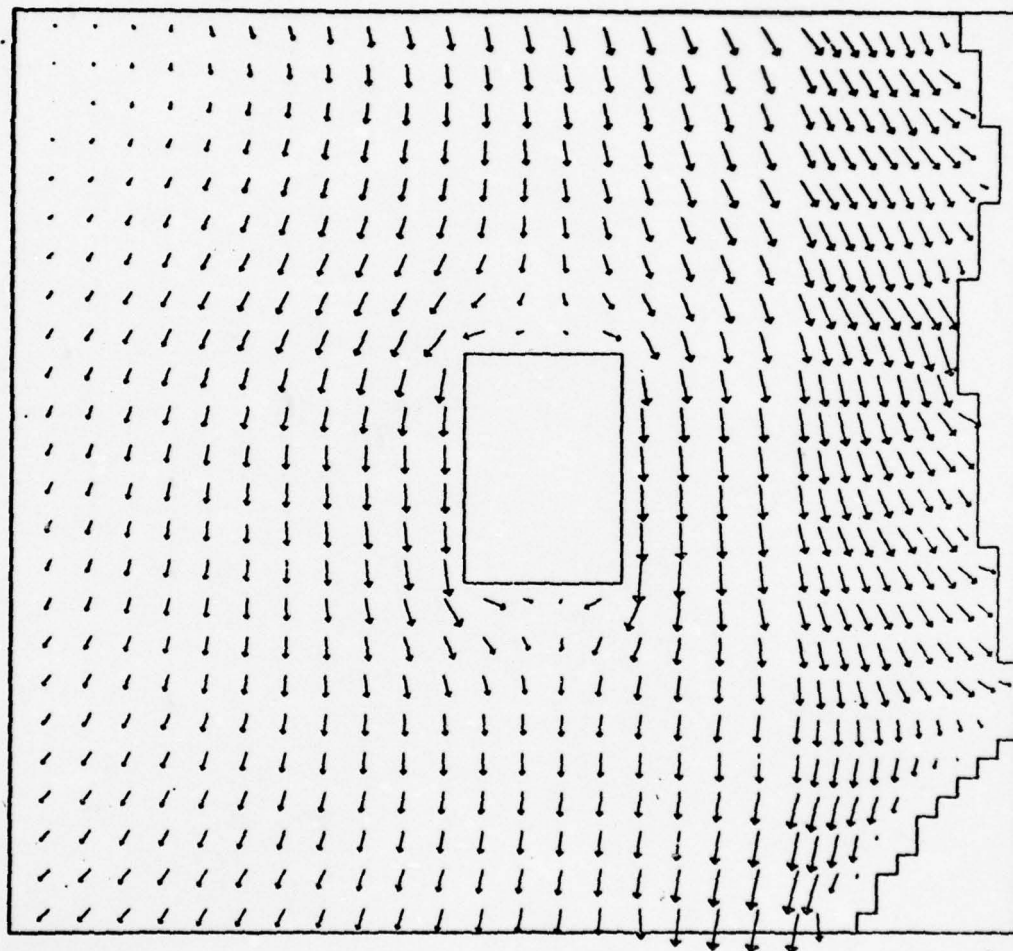


17 NPM-ESE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 40.0 FT

1.0

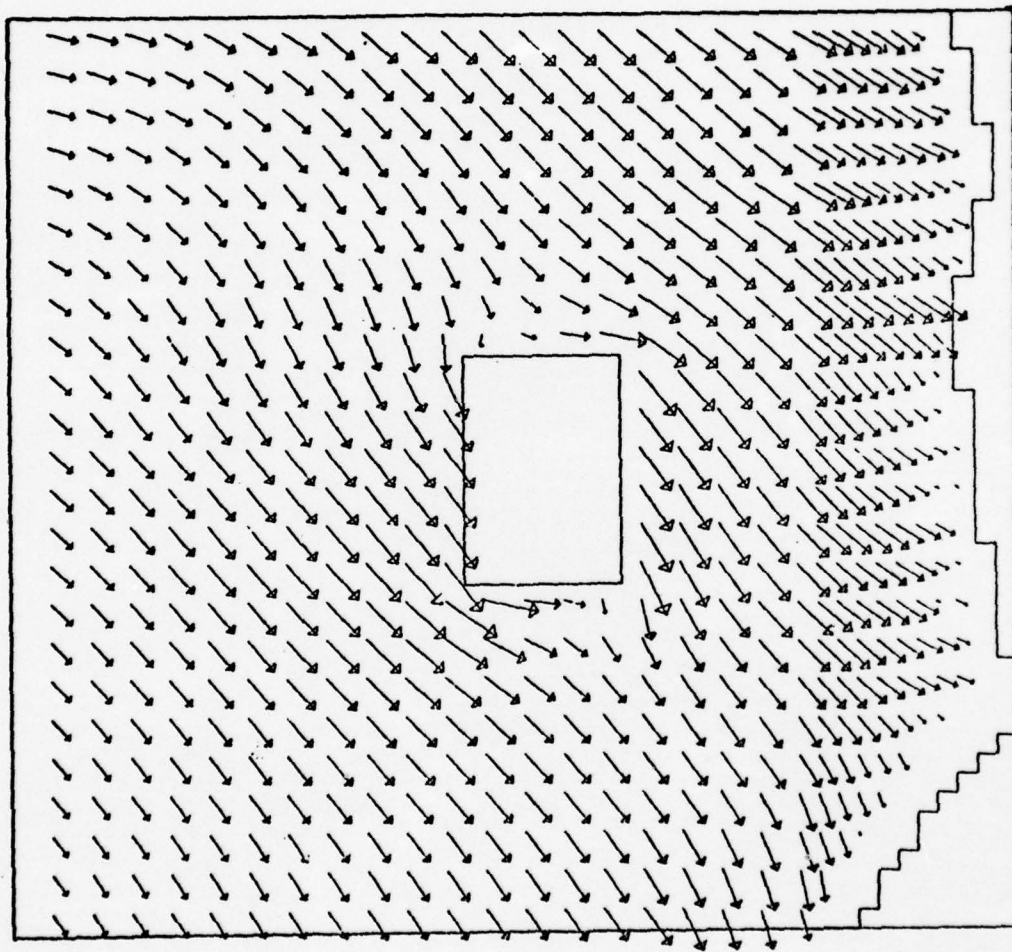
VECTOR LENGTH = 1 FOOT/SEC =



17 MPH-ESE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 20.0 FT

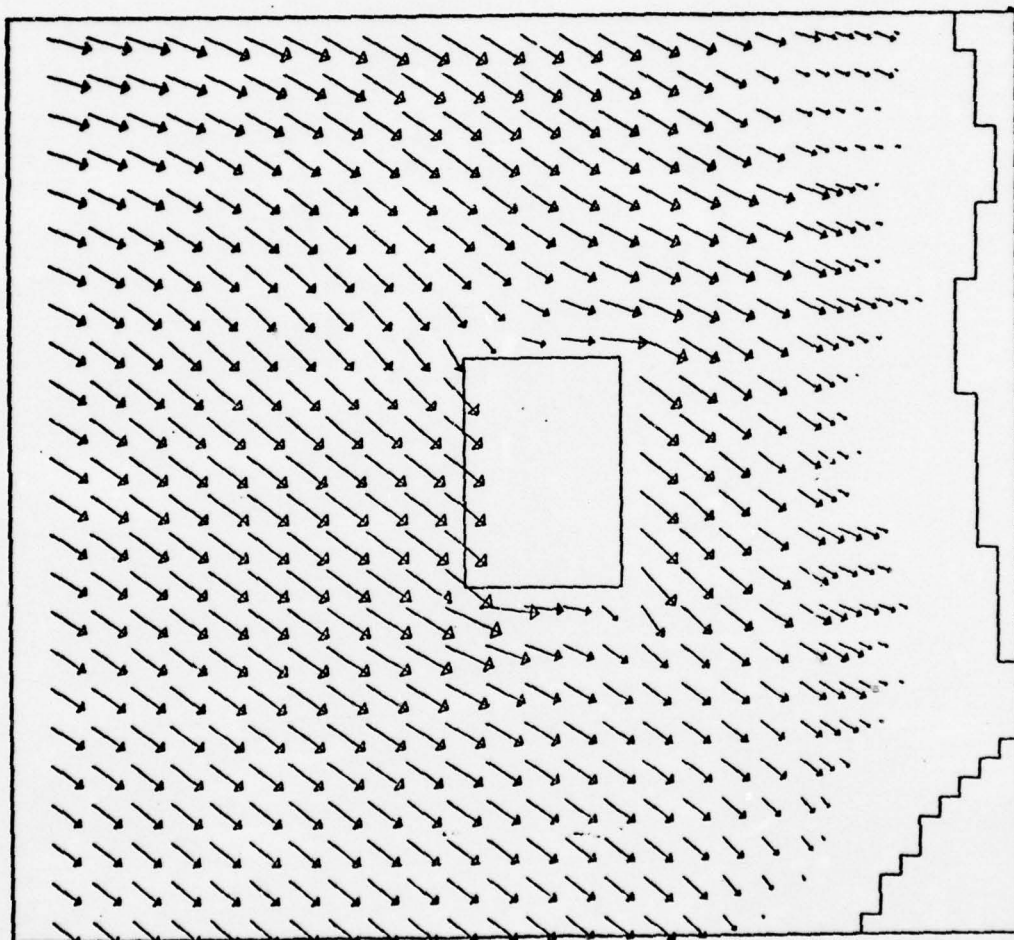
VECTOR LENGTH = 1 FOOT/SEC = 1.0



17 MPH.ESE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 30.0 FT

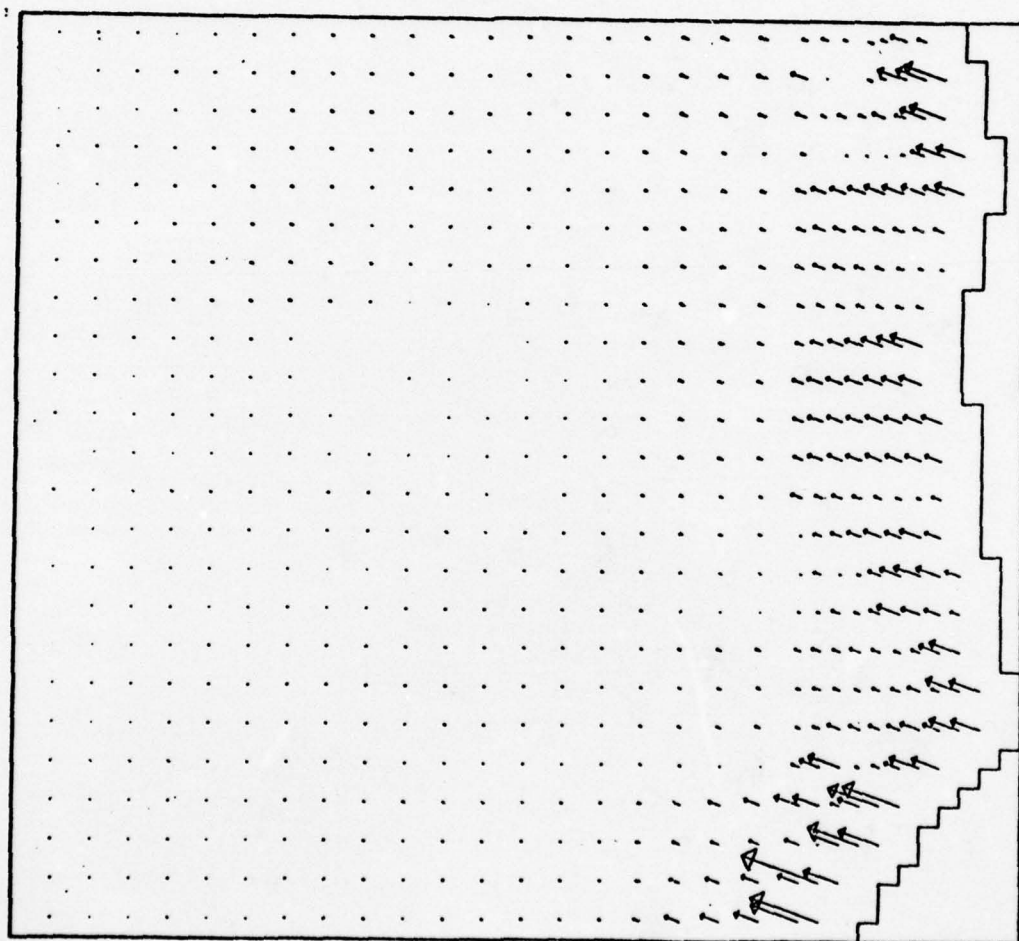
VECTOR LENGTH = 1 FOOT/SEC = 1.0



17 MPH-ESE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 40.0 FT

1.0



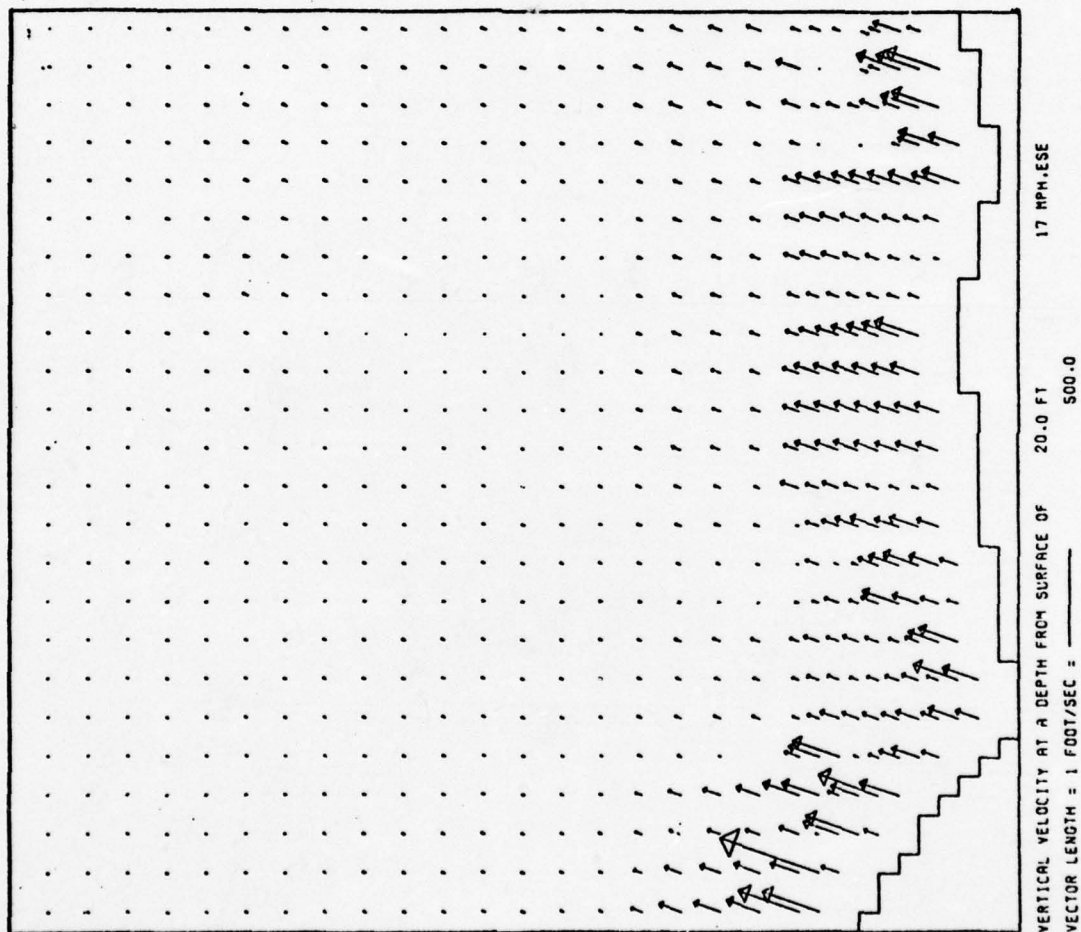
17 MPH, ESE

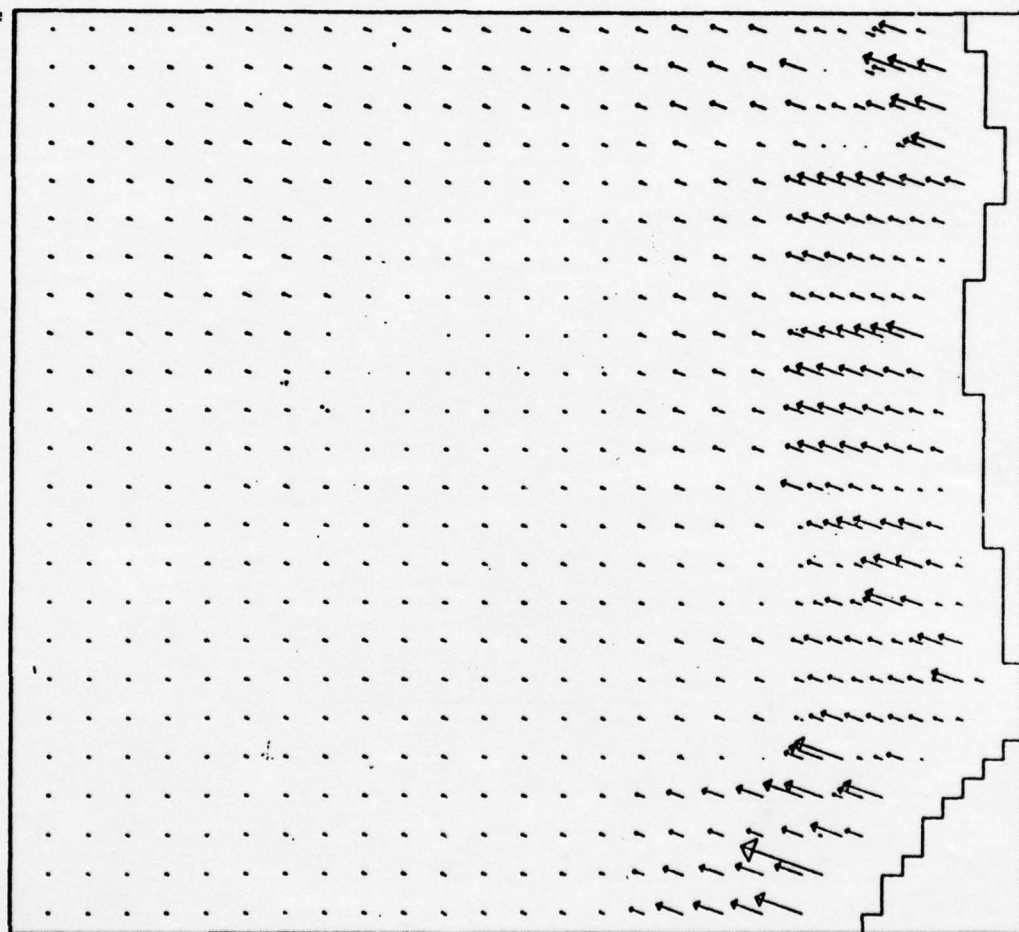
10.0 FT

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

500.0

VECTOR LENGTH = 1 FOOT/SEC =



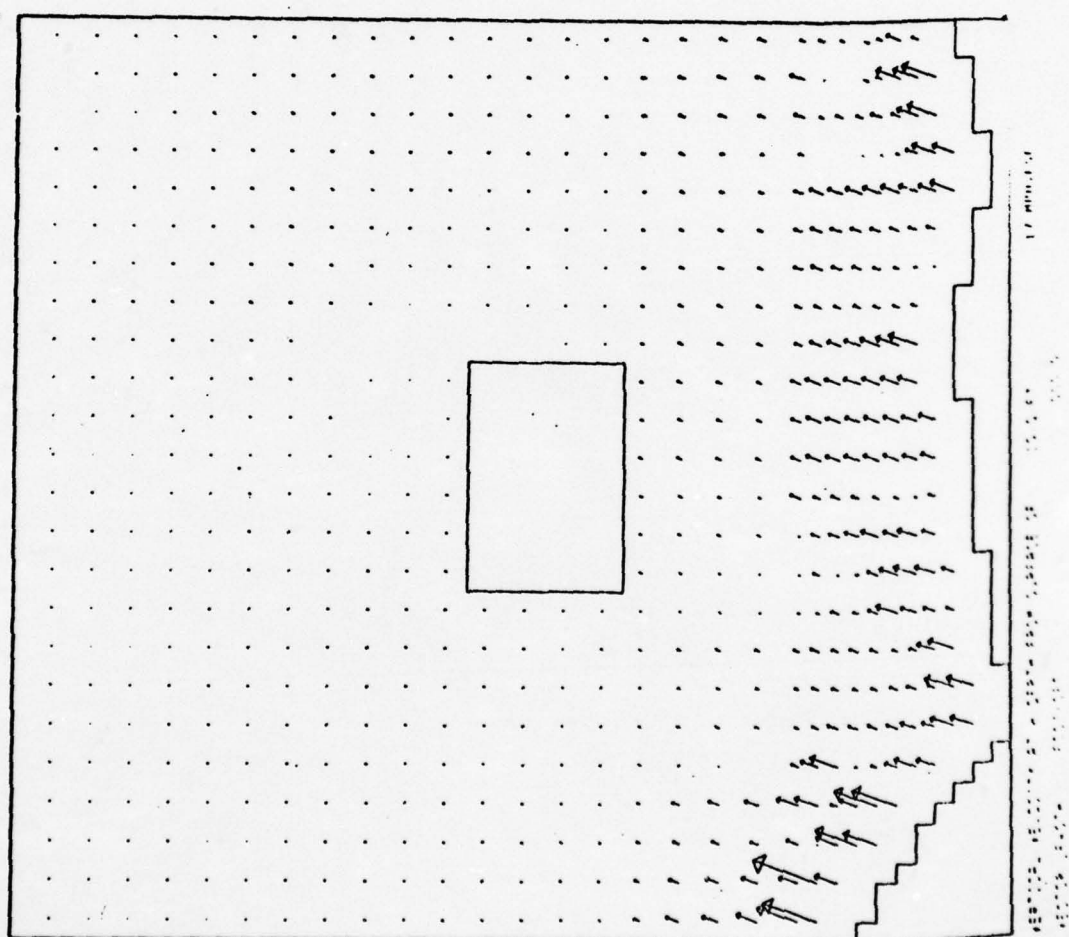


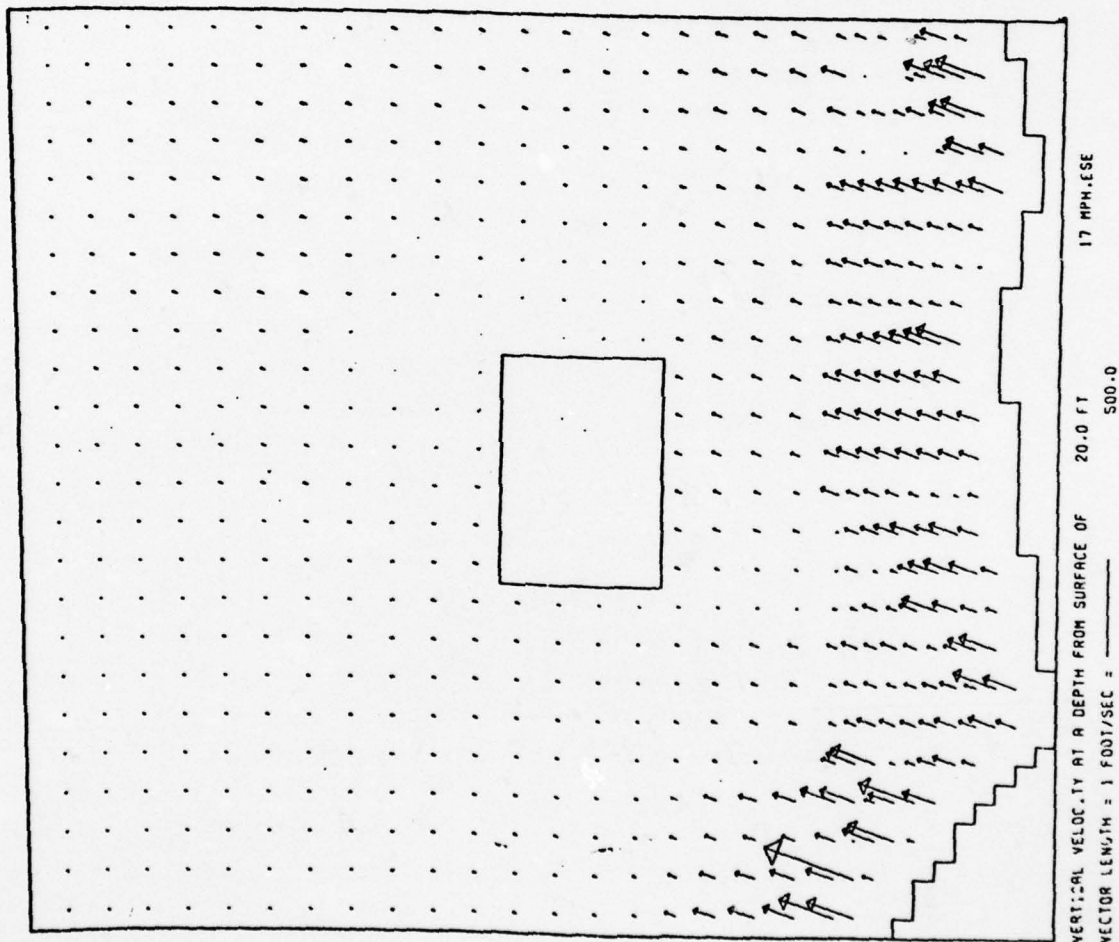
17 MPH.ESE

30.0 FT

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

VECTOR LENGTH = 1 FOOT/SEC =





AD-A036 242

ARMY ENGINEER WATERWAYS EXPERIMENT STATION VICKSBURG MISS F/G 1/5
LAKE ERIE INTERNATIONAL JETPORT MODEL FEASIBILITY INVESTIGATION--ETC(U)
FEB 76 D L DURHAM, H L BUTLER

UNCLASSIFIED

WES-MP-H-76-3-7

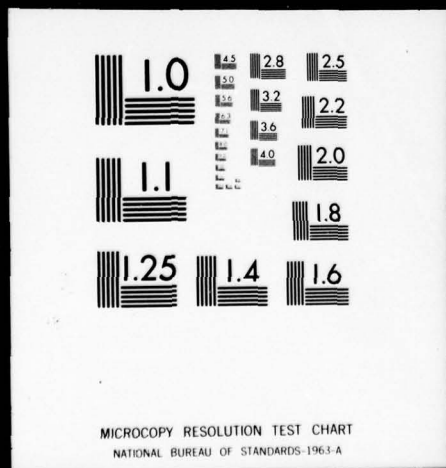
NL

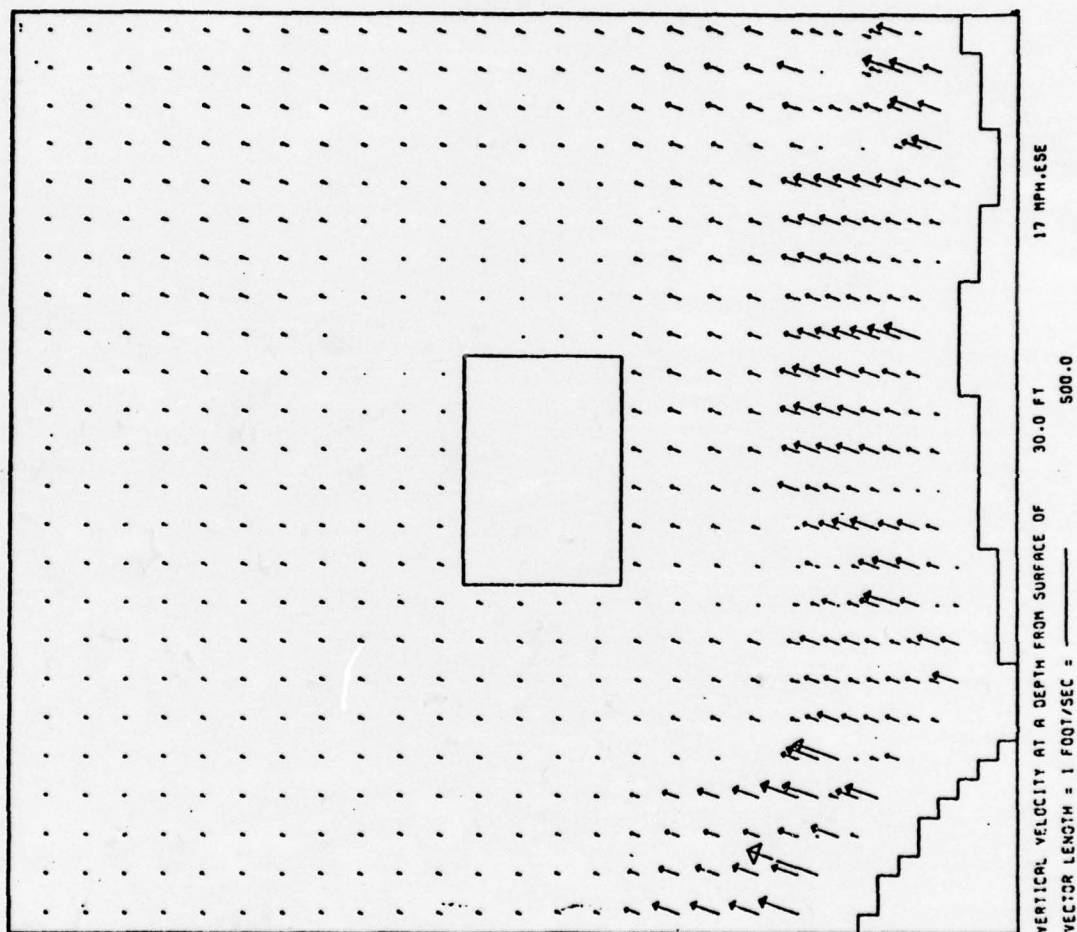
6 of 8
ADA036242



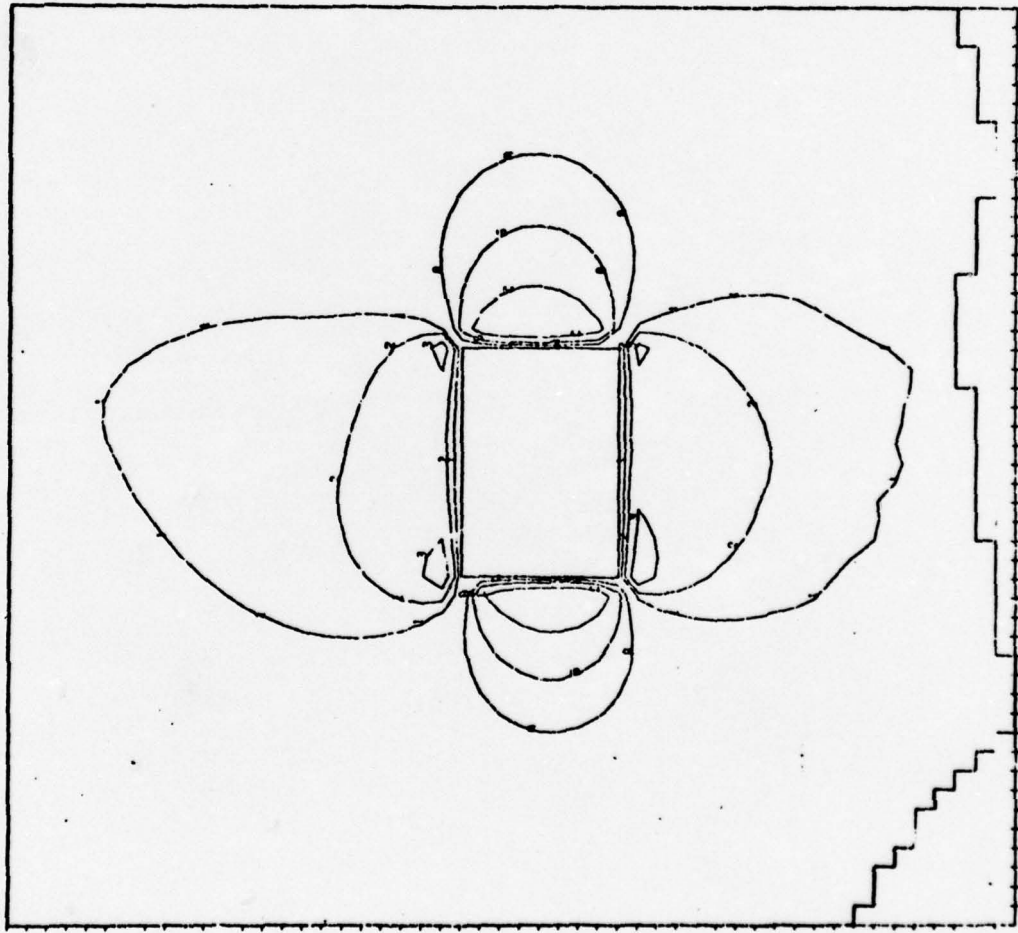
6 OF 8

ADA036242





SYMBOLS	CONTOUR LEVELS
1	0.050
2	0.100
3	0.200
4	0.400
5	0.600
6	0.800
7	1.000
8	1.500
9	2.000
A	-0.050
B	-0.100
C	-0.200
D	-0.400
E	-0.600
F	-0.800
G	-1.000
H	-1.500
I	-2.000

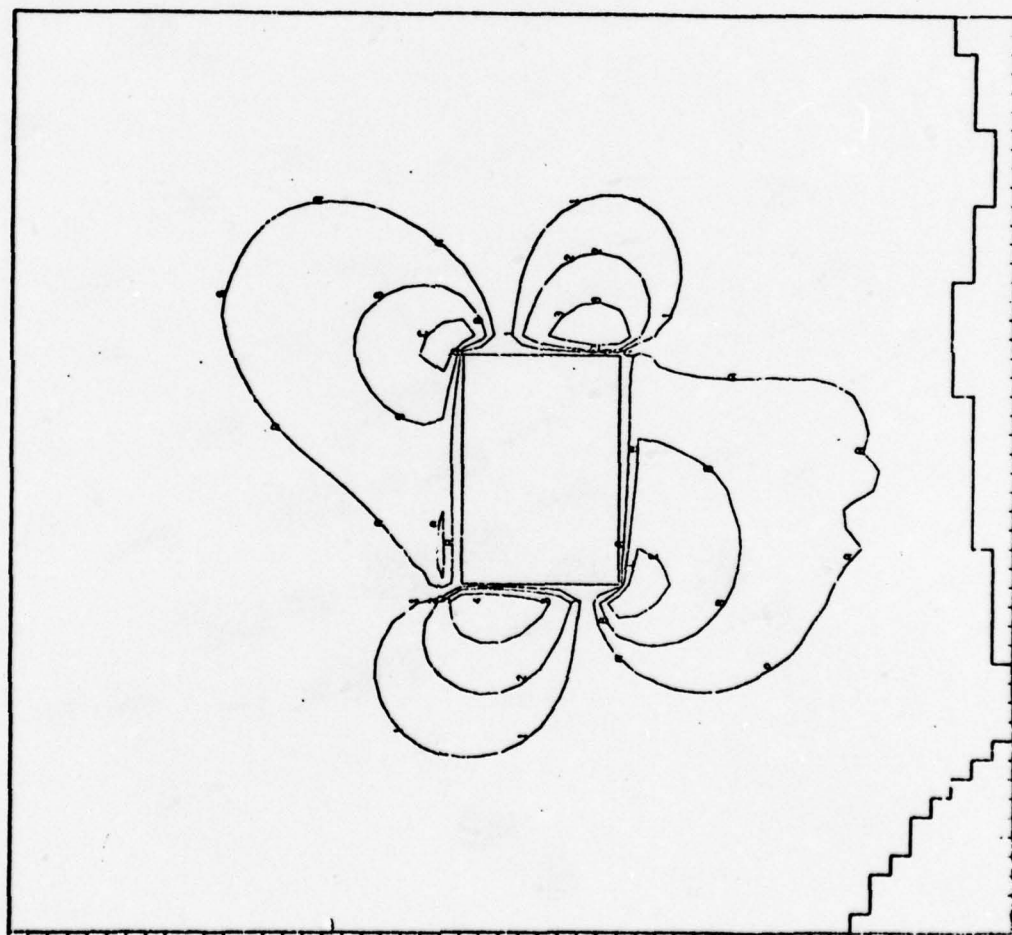


CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

U.D=0.W-17ESE

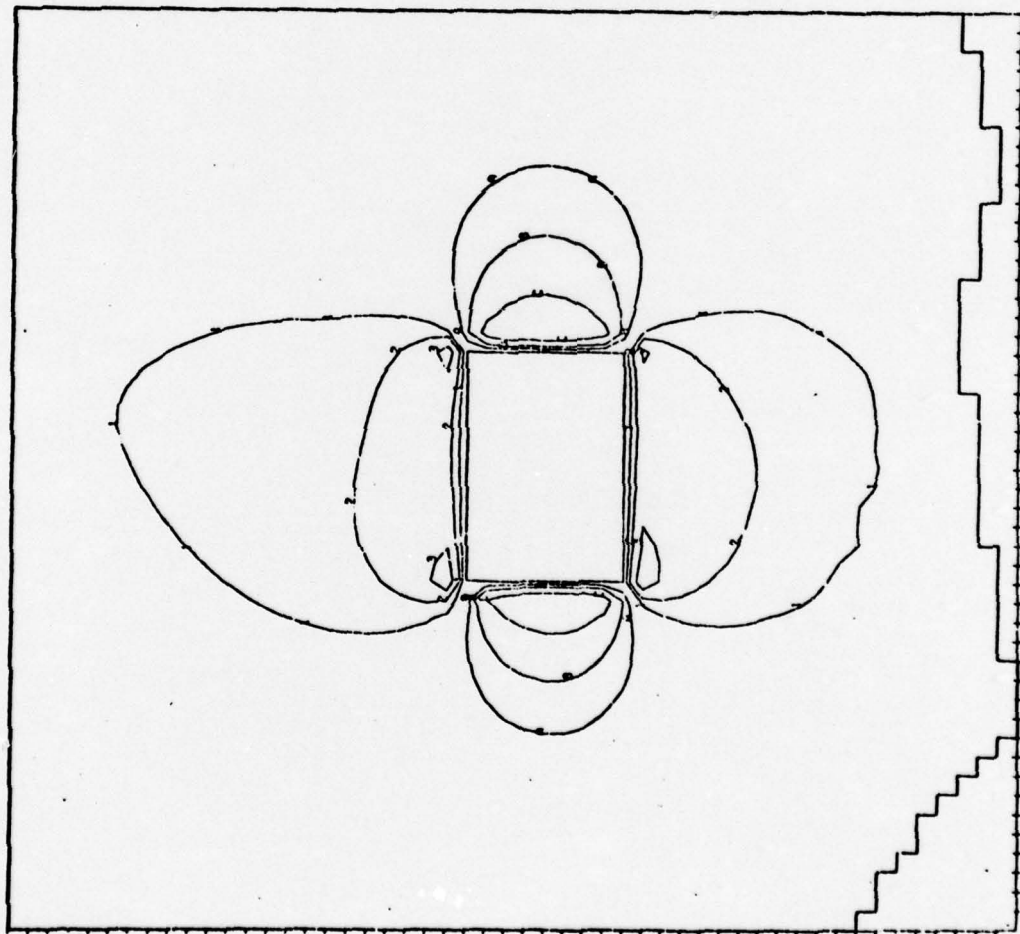
SYMBOLS
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

CONTOUR LEVELS
 0.050
 0.100
 0.150
 0.200
 0.250
 0.300
 0.350
 0.400
 0.450
 0.500
 0.550
 0.600
 0.650
 0.700
 0.750
 0.800
 0.850
 0.900
 0.950
 1.000
 1.050
 1.100
 1.150
 1.200
 1.250
 1.300
 1.350
 1.400
 1.450
 1.500
 1.550
 1.600
 1.650
 1.700
 1.750
 1.800
 1.850
 1.900
 1.950
 2.000



CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

M.D=0.M=17ESE



SYMBOLS
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

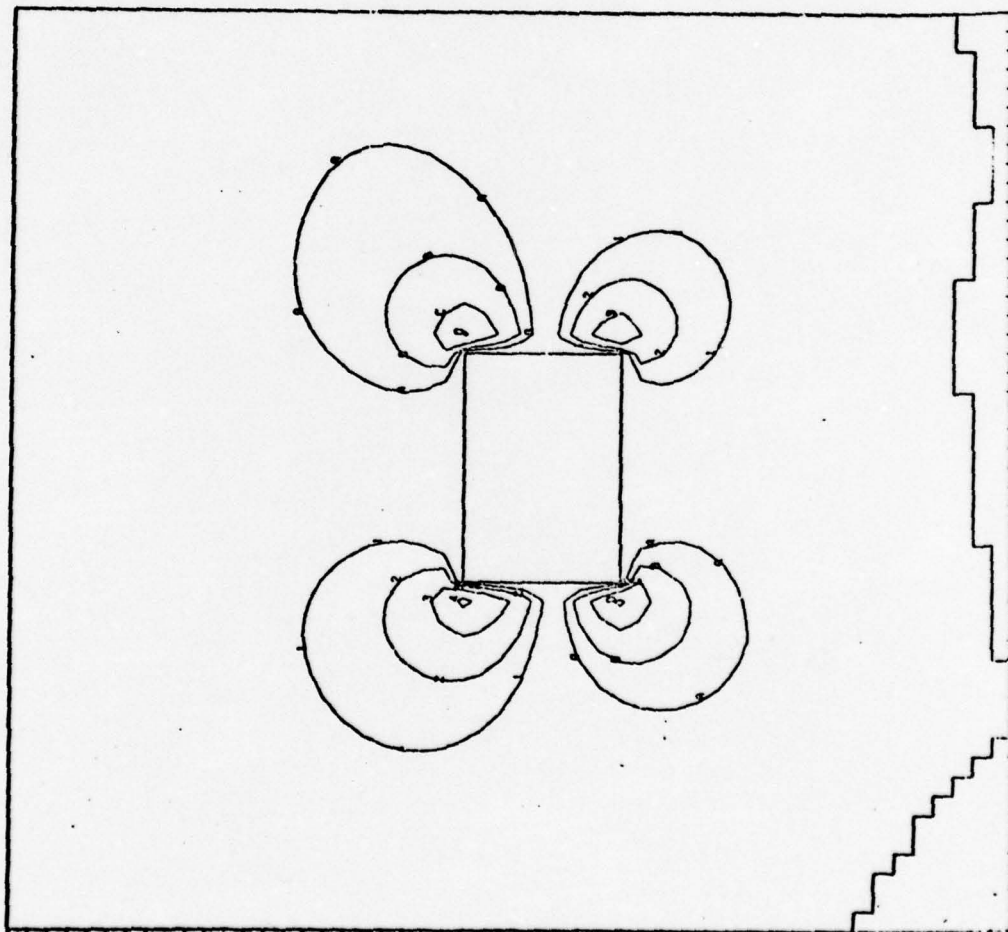
CONTOUR LEVELS
0.050
0.100
0.150
0.200
0.250
0.300
0.400
0.500
0.600
0.800
1.000
1.200
1.500
2.000
-0.050
-0.100
-0.150
-0.200
-0.250
-0.300
-0.400
-0.500
-0.600
-0.800
-1.000
-1.200
-1.500
-2.000

CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

U.D-15.W-17ESE

SYMBOLS
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

CONTOUR LEVELS
 0.050
 0.100
 0.200
 0.400
 0.500
 0.600
 1.000
 1.500
 2.000
 -0.050
 -0.100
 -0.200
 -0.400
 -0.500
 -0.600
 -1.000
 -1.500
 -2.000

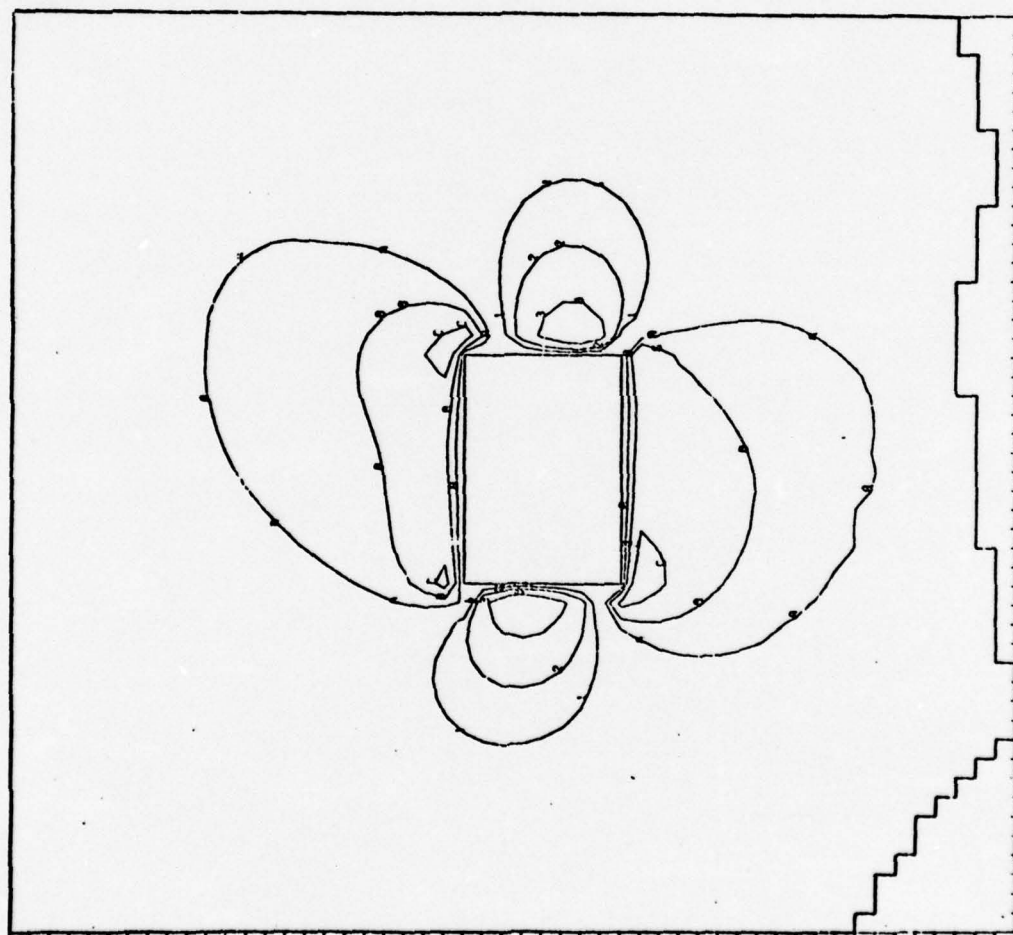


CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

V.0-14.4 17.7

SYMBOLS CONTOUR LEVELS

1	0.050
2	0.100
3	0.200
4	0.400
5	0.600
6	0.800
7	1.000
8	1.500
9	2.000
A	-0.050
B	-0.100
C	-0.200
D	-0.400
E	-0.600
F	-0.800
G	-1.000
H	-1.500
I	-2.000

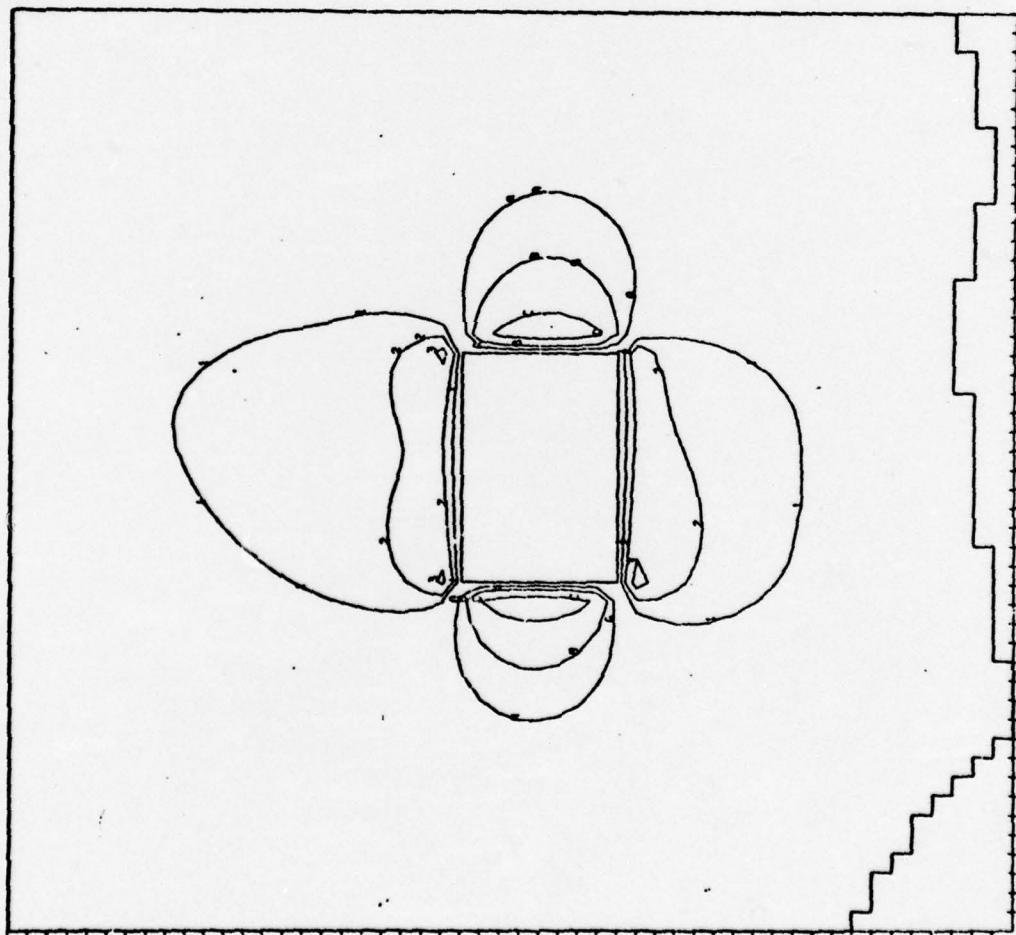


CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

M.D=15.W-17ESE

SYMBOLS
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

CONTOUR LEVELS
 0.0500
 0.1000
 0.1500
 0.2000
 0.2500
 0.3000
 0.3500
 0.4000
 0.4500
 0.5000
 0.5500
 0.6000
 0.6500
 0.7000
 0.7500
 0.8000
 0.8500
 0.9000
 0.9500
 1.0000
 1.0500
 1.1000
 1.1500
 1.2000
 1.2500
 1.3000
 1.3500
 1.4000
 1.4500
 1.5000
 1.5500
 1.6000
 1.6500
 1.7000
 1.7500
 1.8000
 1.8500
 1.9000
 1.9500
 2.0000

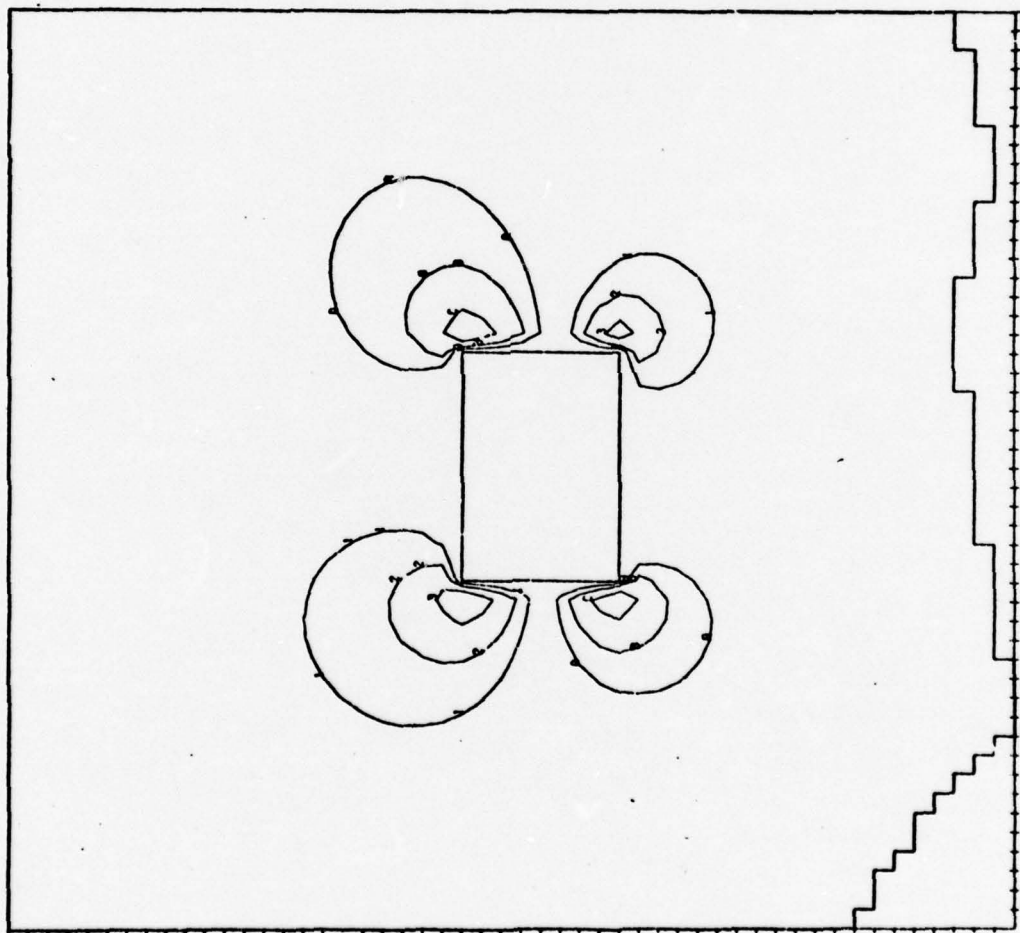


CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

U.D=30.W=17ESE

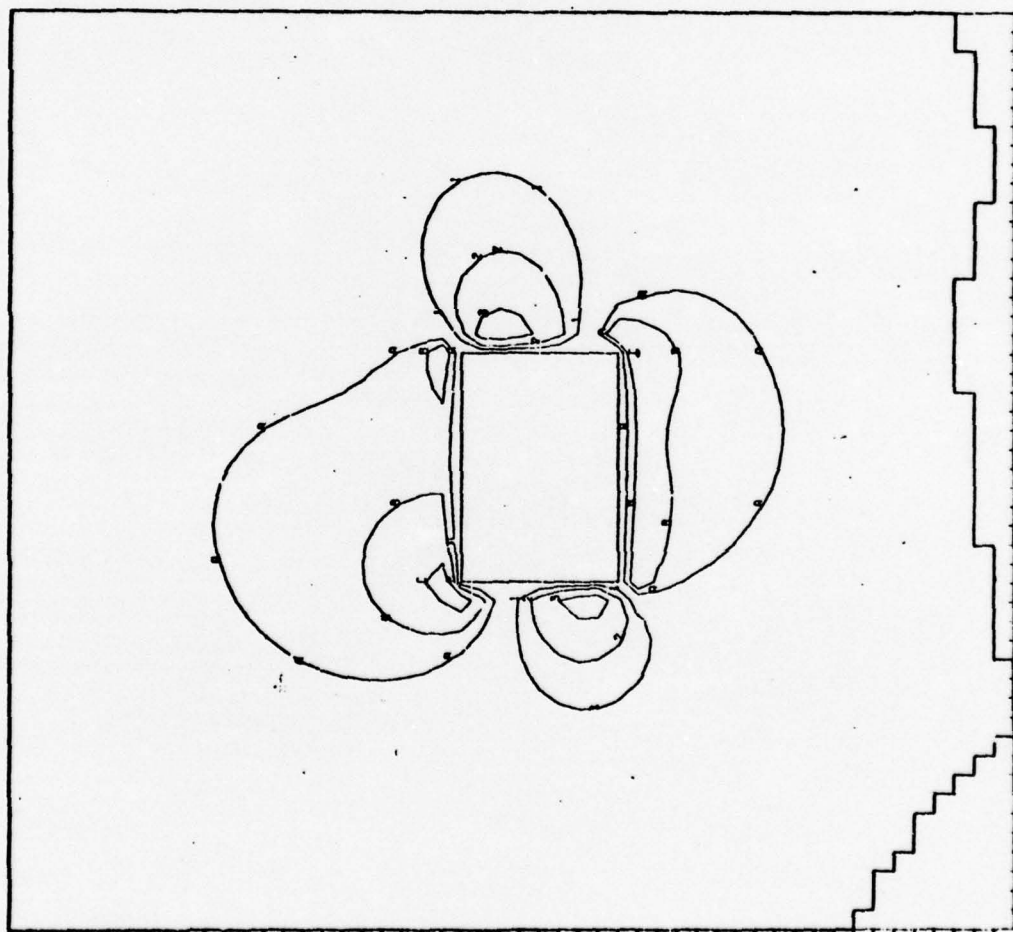
SYMBOLS
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

CONTOUR LEVELS
 0.050
 0.100
 0.200
 0.400
 0.600
 0.800
 1.000
 1.200
 1.400
 1.600
 1.800
 2.000
 2.200
 2.400
 2.600
 2.800
 3.000
 3.200
 3.400
 3.600
 3.800
 4.000
 4.200
 4.400
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 6.200
 6.400
 6.600
 6.800
 7.000
 7.200
 7.400
 7.600
 7.800
 8.000
 8.200
 8.400
 8.600
 8.800
 9.000
 9.200
 9.400
 9.600
 9.800
 10.000



CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

V.D=30.W=17ESE

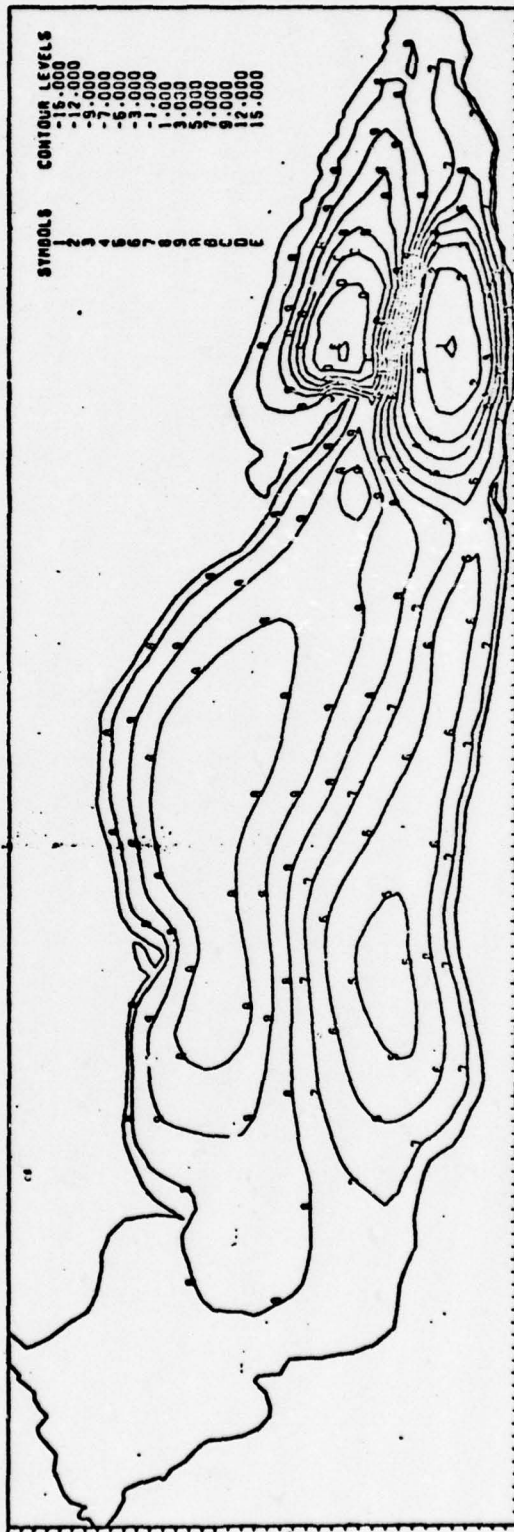


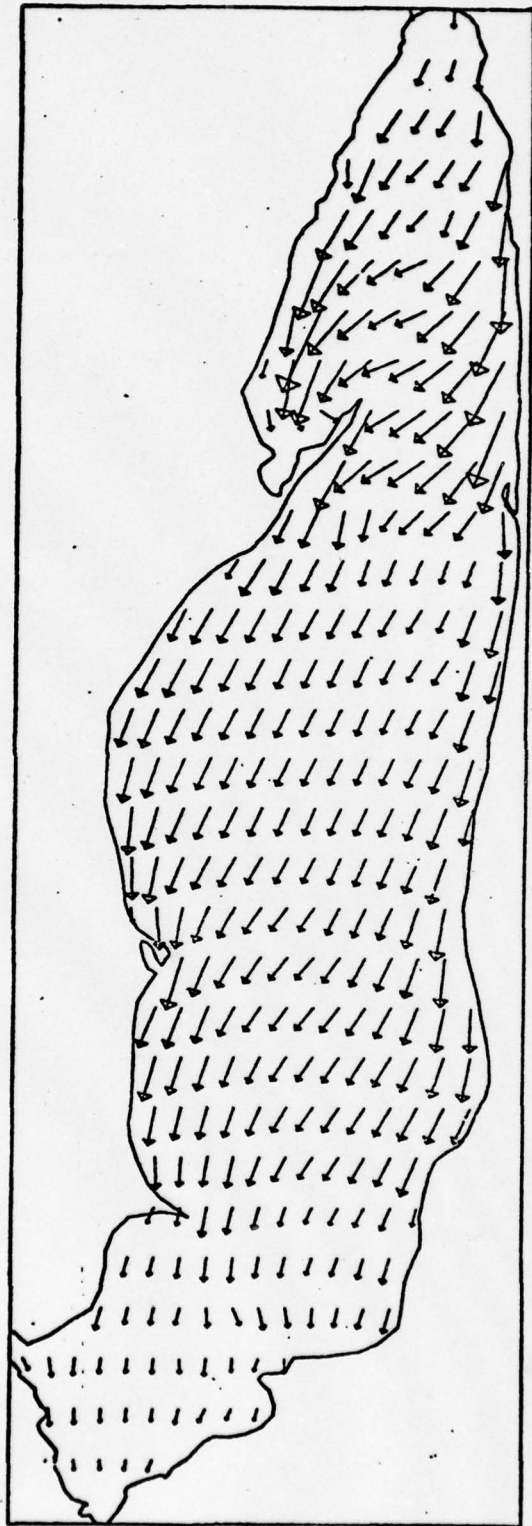
SYMBOLS
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

CONTOUR LEVELS
0.050
0.100
0.200
0.400
0.600
0.800
1.000
1.500
2.000
-0.050
-0.100
-0.200
-0.400
-0.600
-0.800
-1.000
-1.500
-2.000

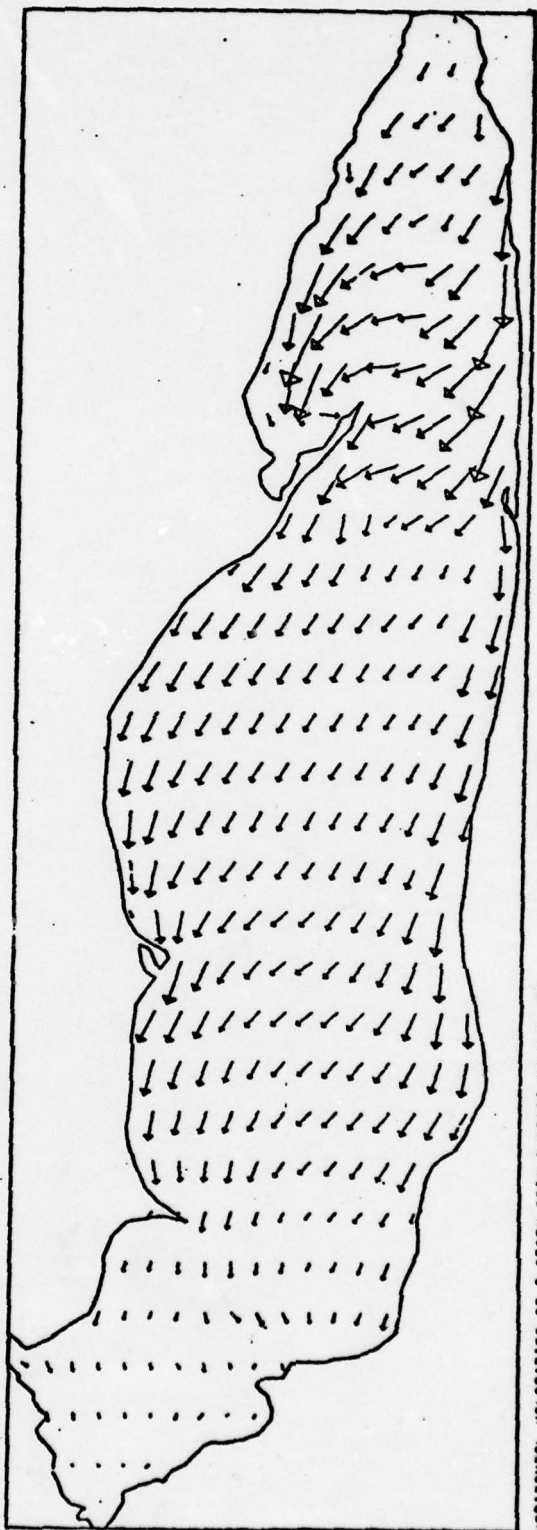
CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

M.D=30.W=17ESE

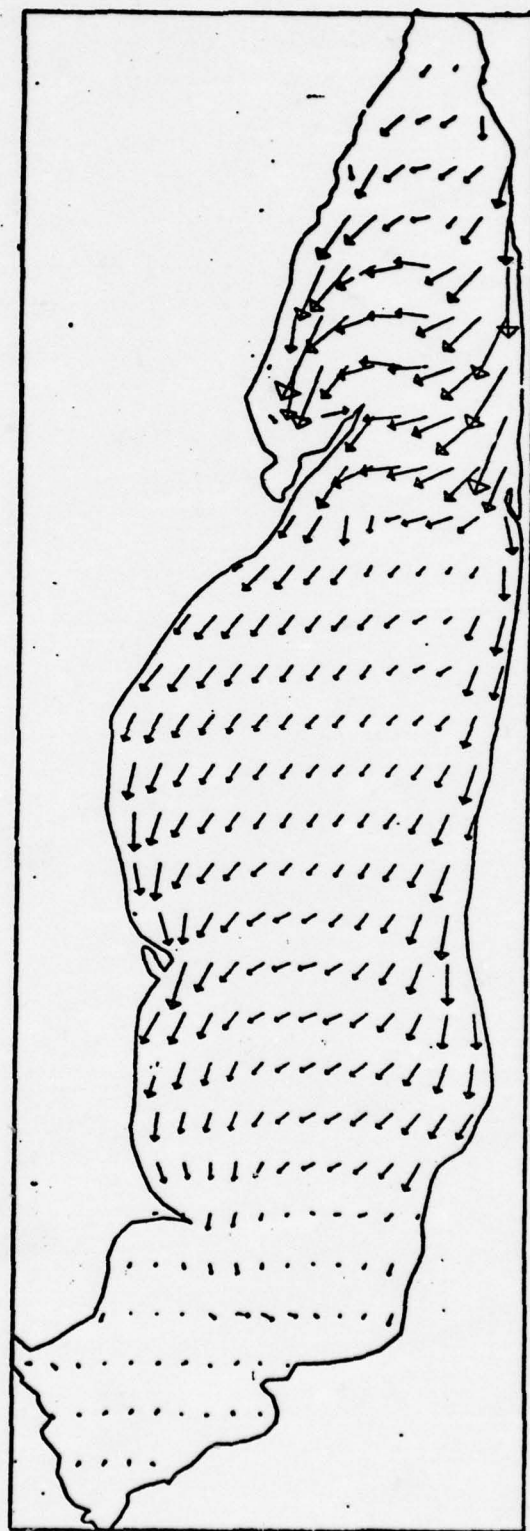




HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 0.0 FT
VECTOR LENGTH = 1 FOOT/SEC = — 35 MPH/ENE 1.0



HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 5.0 FT
VECTOR LENGTH = 1 FOOT/SEC = — 35 MPH/ENE 1.0

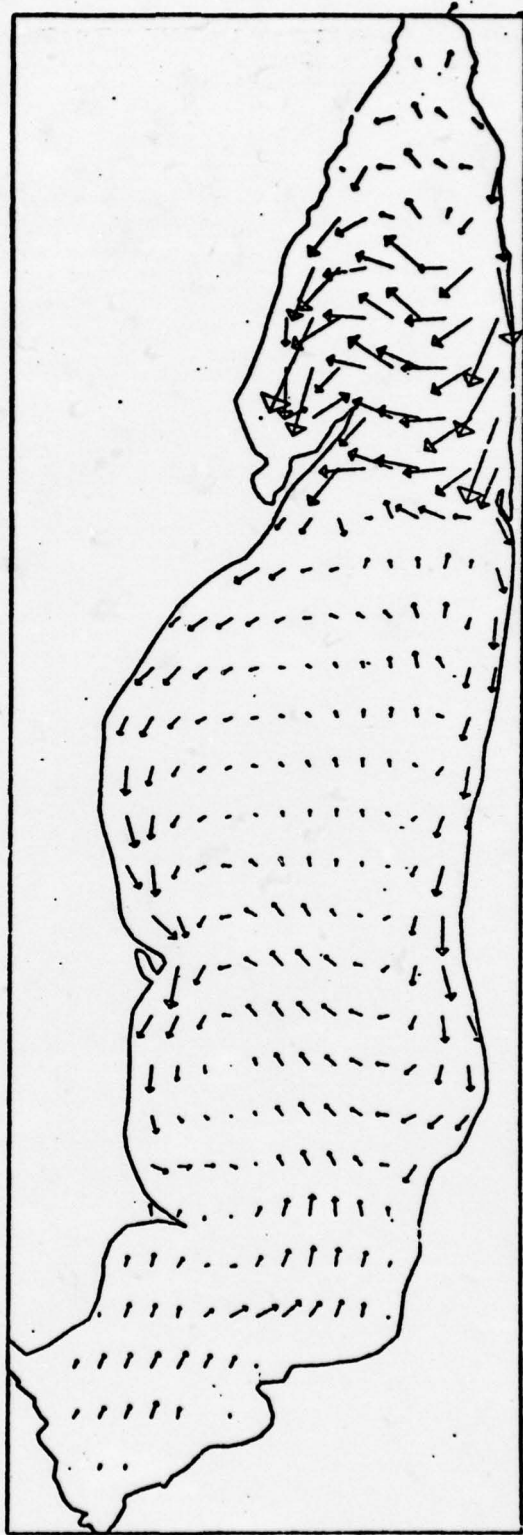


35 MPH.ENE

1.0

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 10.0 FT

VECTOR LENGTH = 1 FOOT/SEC = —

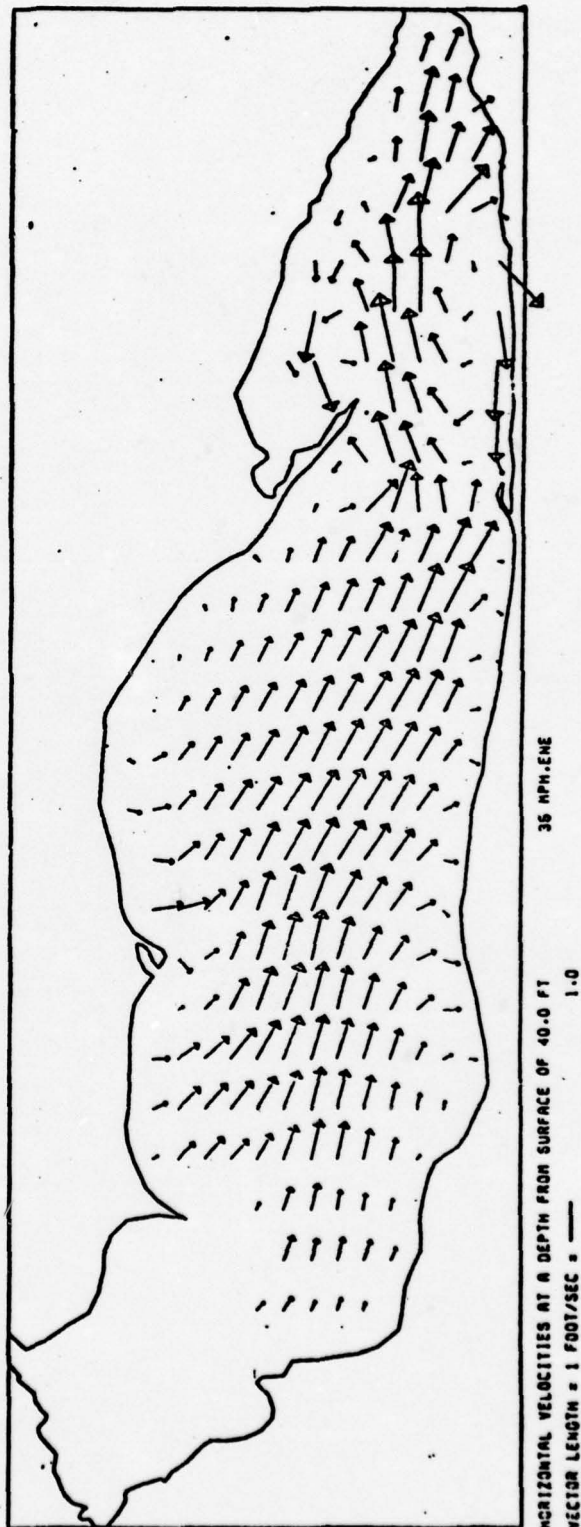


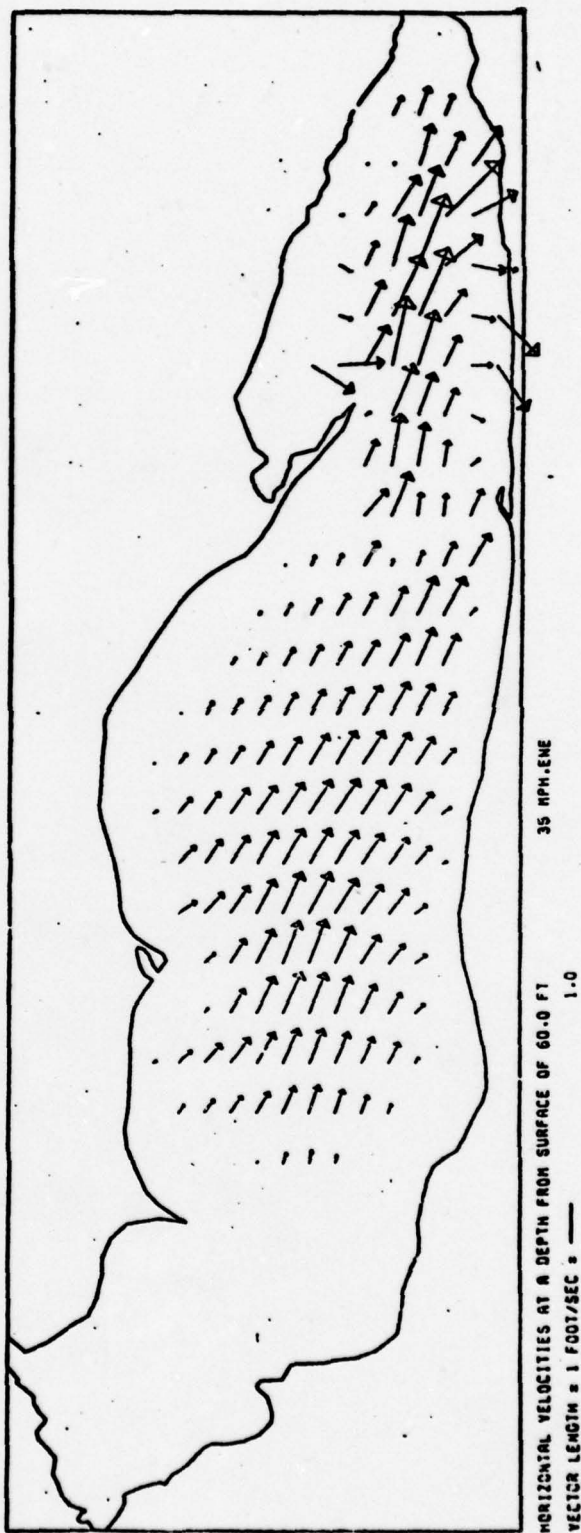
35 MPH/ENE

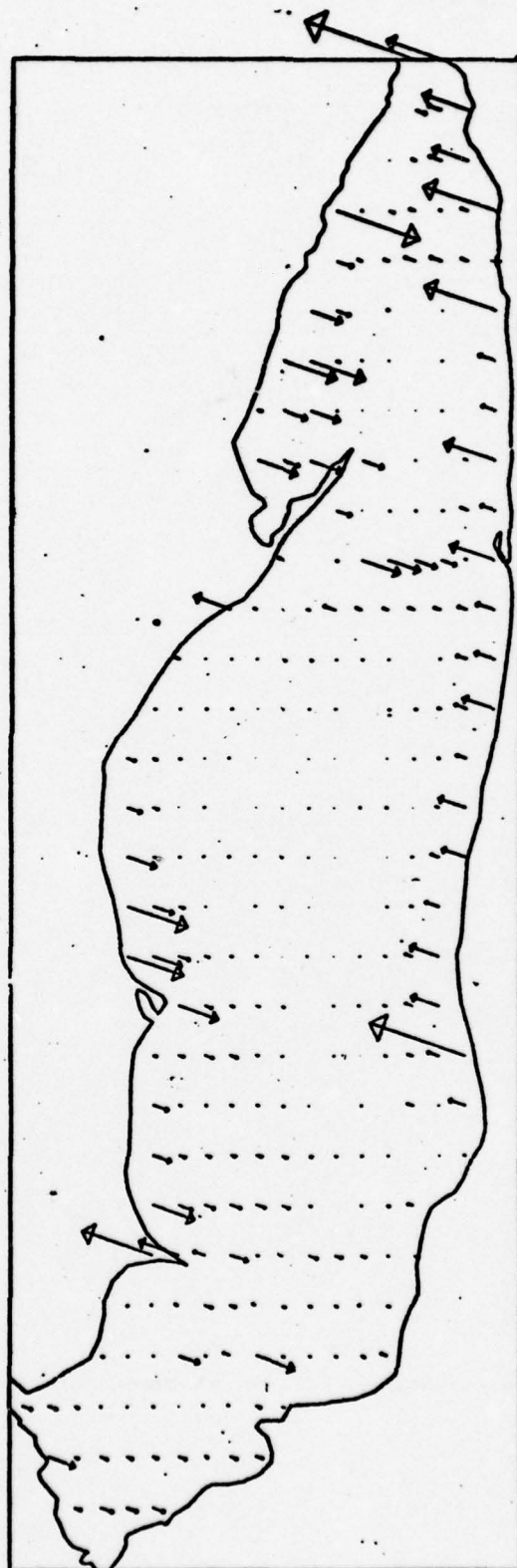
HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 20.0 FT

1.0

VECTOR LENGTH = 1 FOOT/SEC = —







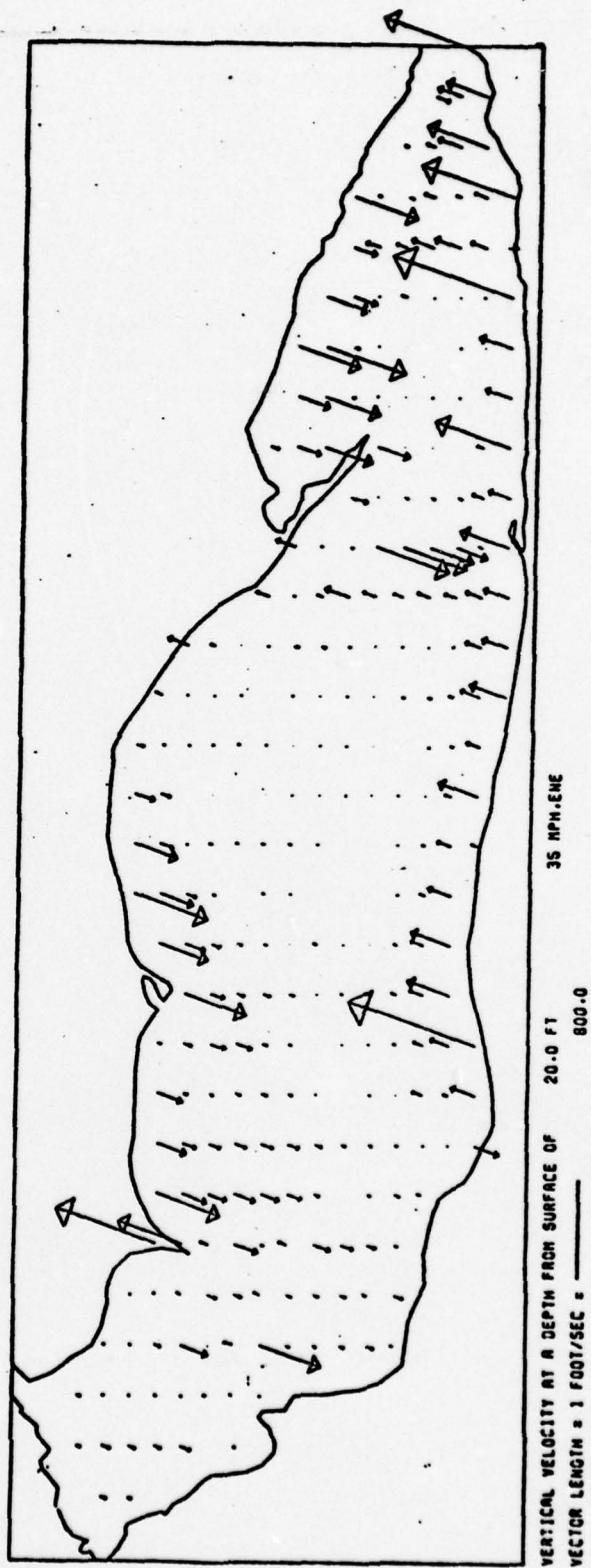
35 MPH·ENE

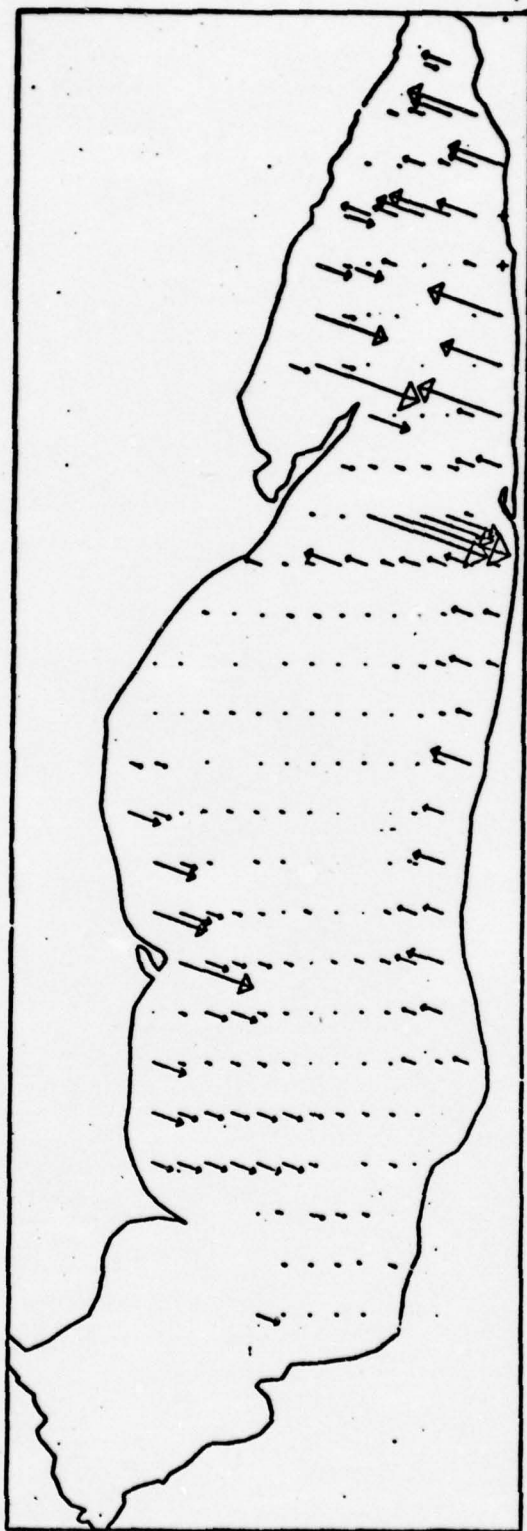
10.0 FT

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

VECTOR LENGTH = 1 FOOT/SEC =

800.0





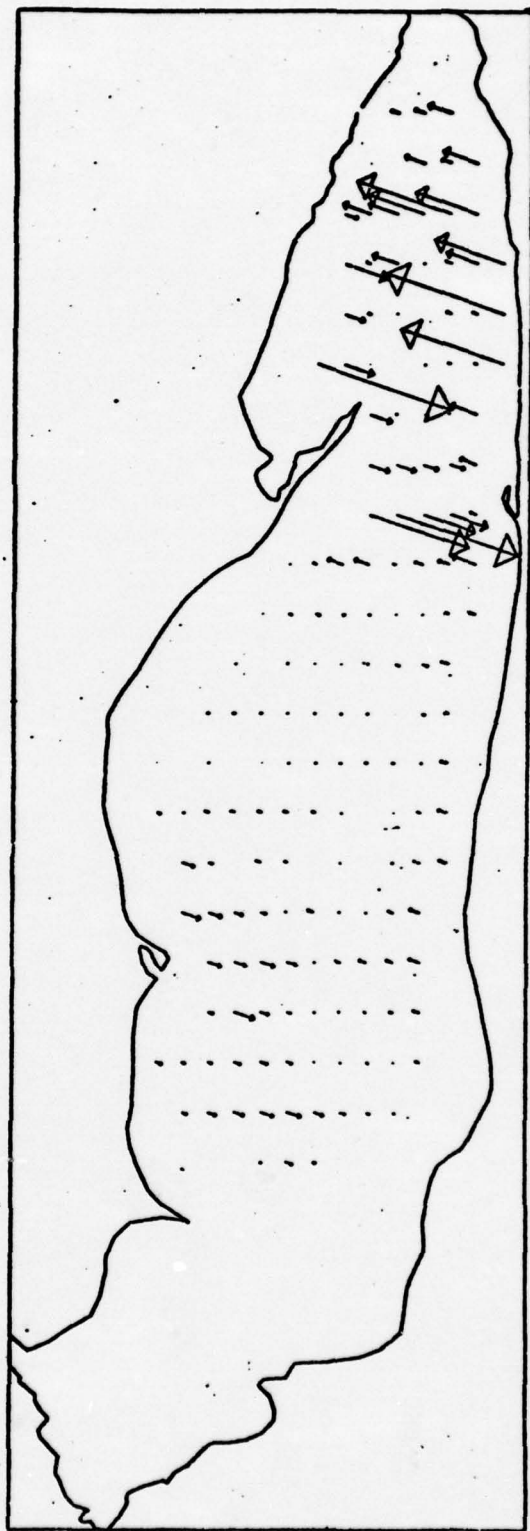
35 MPH-ENE

40.0 FT

800.0

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

VECTOR LENGTH = 1-FOOT/SEC = _____



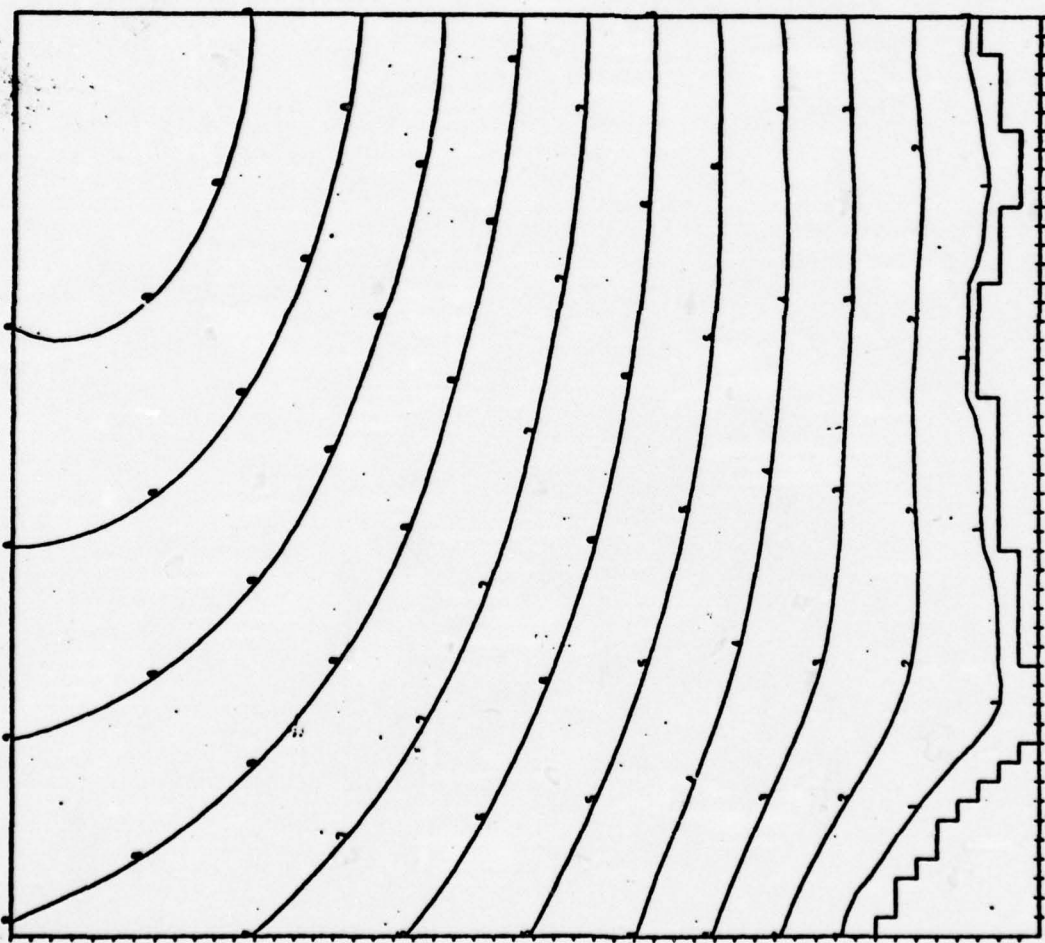
35 MPH/ENE

60.0 FT

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

800.0

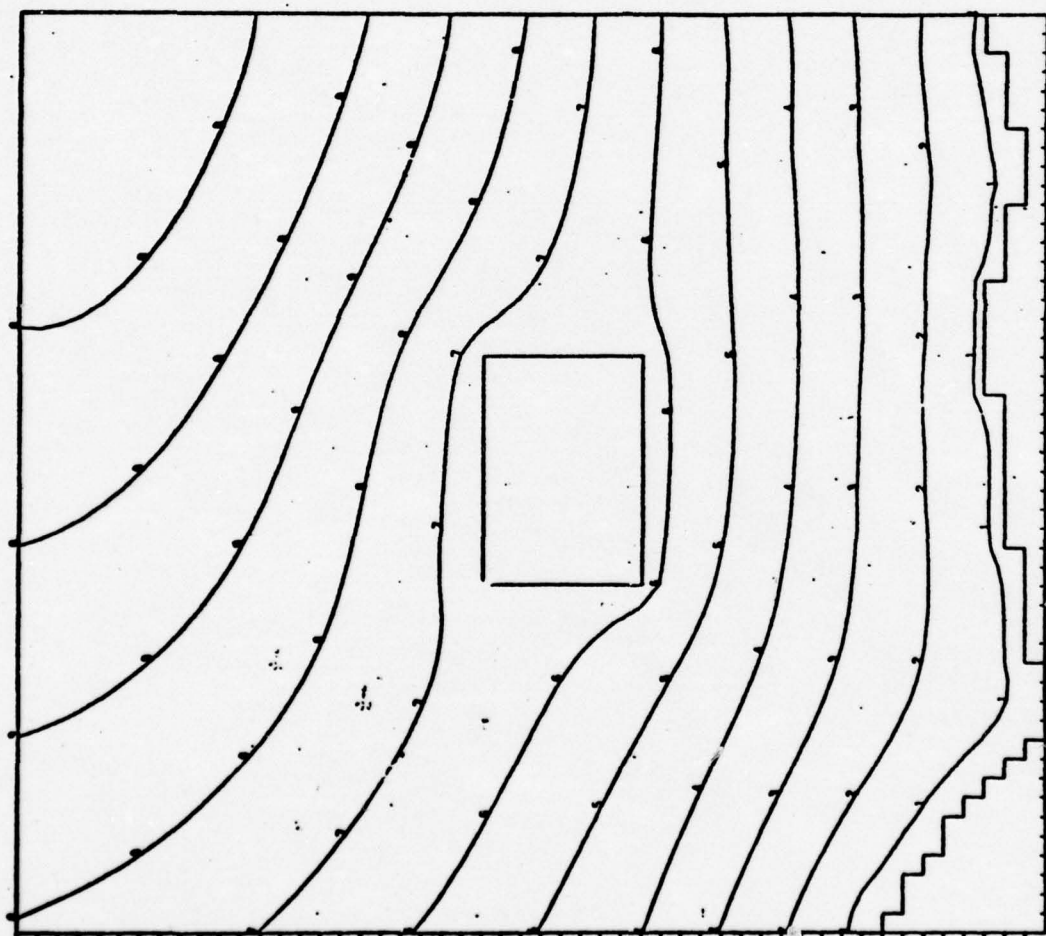
VECTOR LENGTH = 1 FOOT/SEC =



SYMBOLS
 0.100
 0.500
 1.000
 1.500
 2.000
 2.500
 3.000
 3.500
 4.000
 4.500
 5.000

WIND=35MPH·ENE

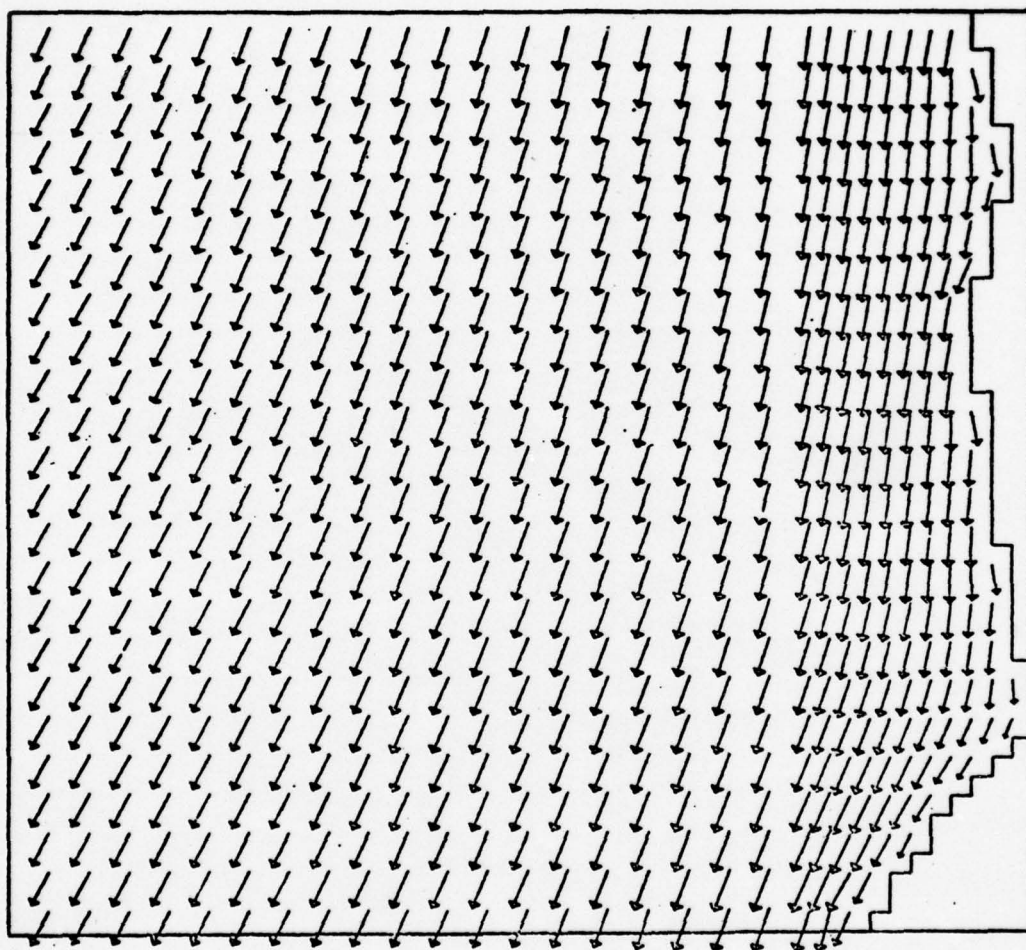
CONTOURS OF STREAM FUNCTION FOR LAKE ERIE -- NEARSHORE



CONTOURS OF STREAM FUNCTION FOR LAKE ERIE -- NEARSHORE

SYMBOLS
 0.000
 -0.500
 -1.000
 -1.500
 -2.000
 -2.500
 -3.000
 -3.500
 -4.000
 -4.500
 -5.000
 -5.500

HA-35MPH ENE

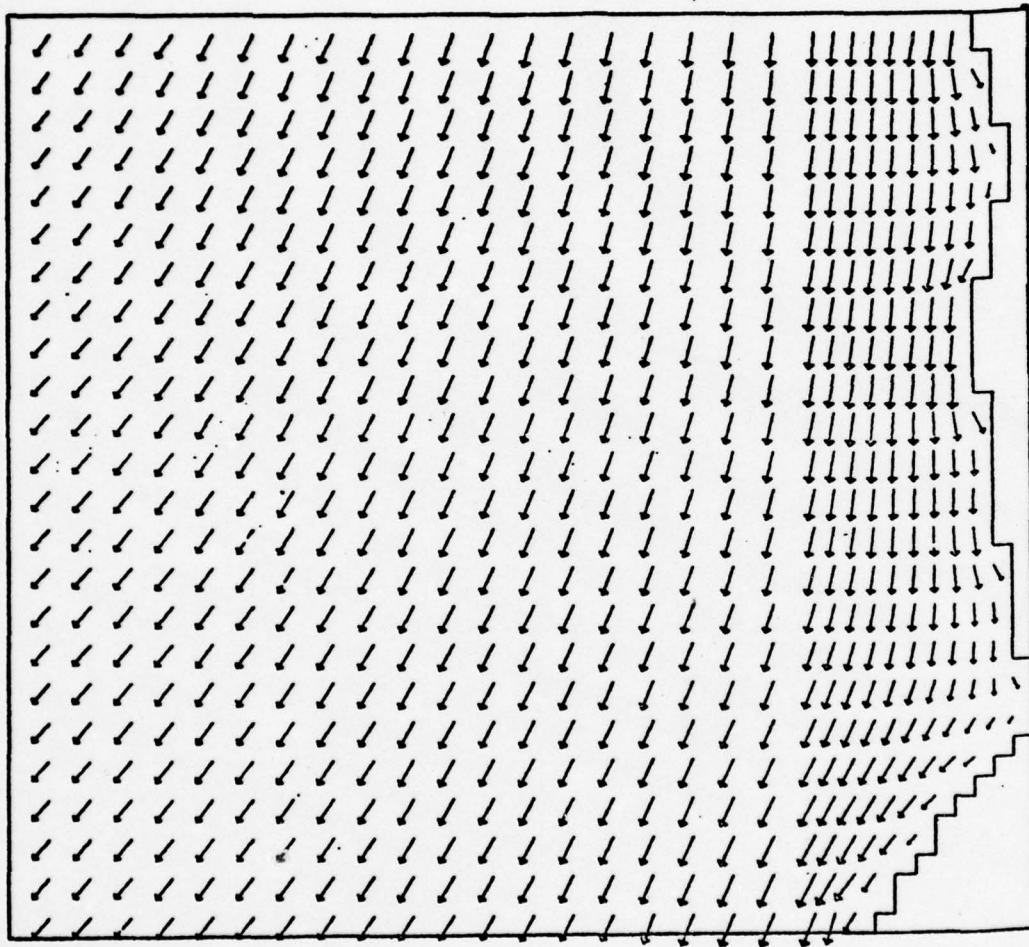


36 MPH/ENE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 0.0 FT

1.0

VECTOR LENGTH = 1 FOOT/SEC = —

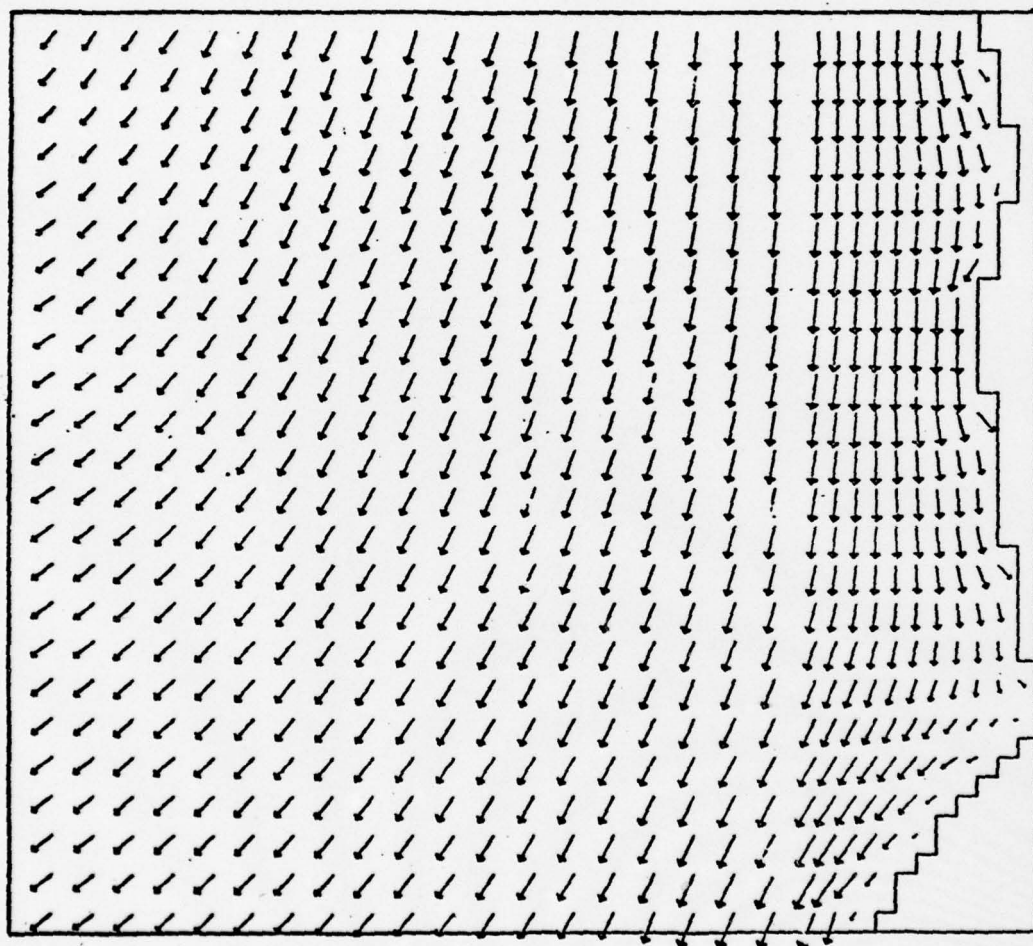


35 MPH-ENE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 10.0 FT

1.0

VECTOR LENGTH = 1 FOOT/SEC = —

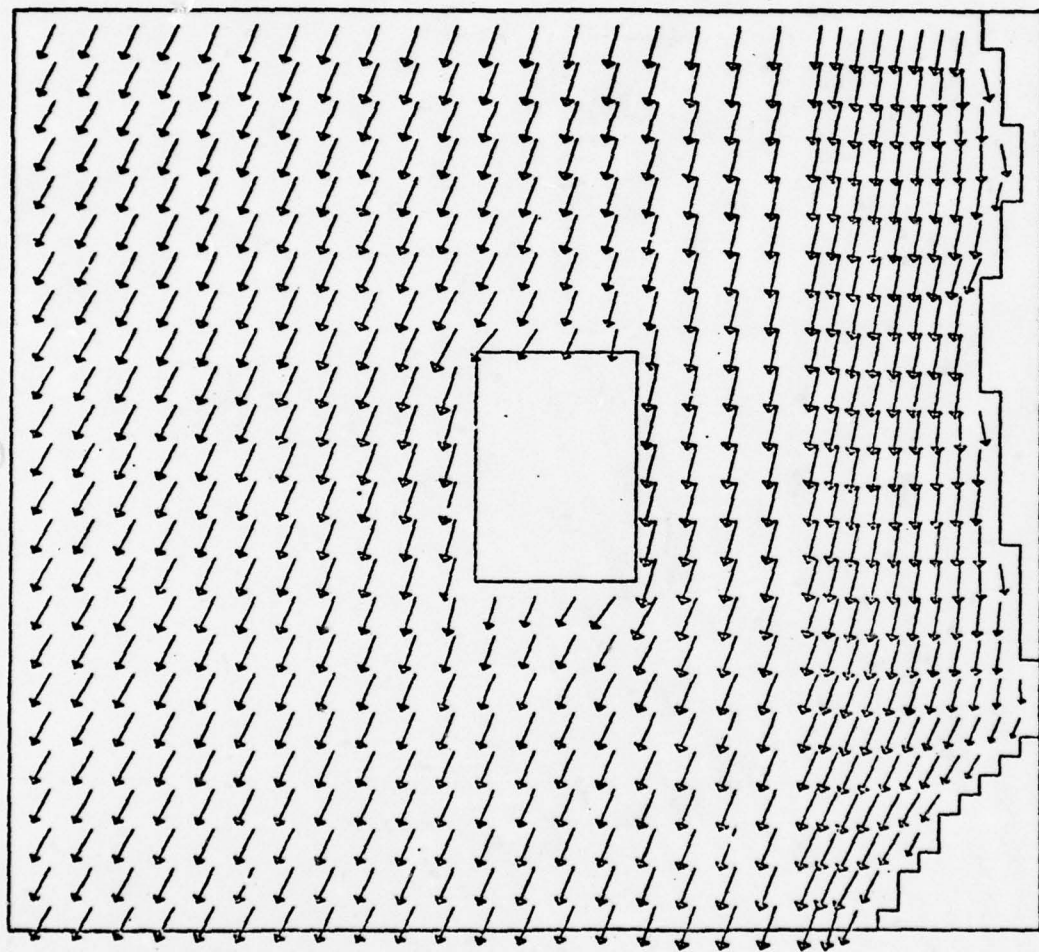


35 MPH.ENE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 15.0 FT

1.0

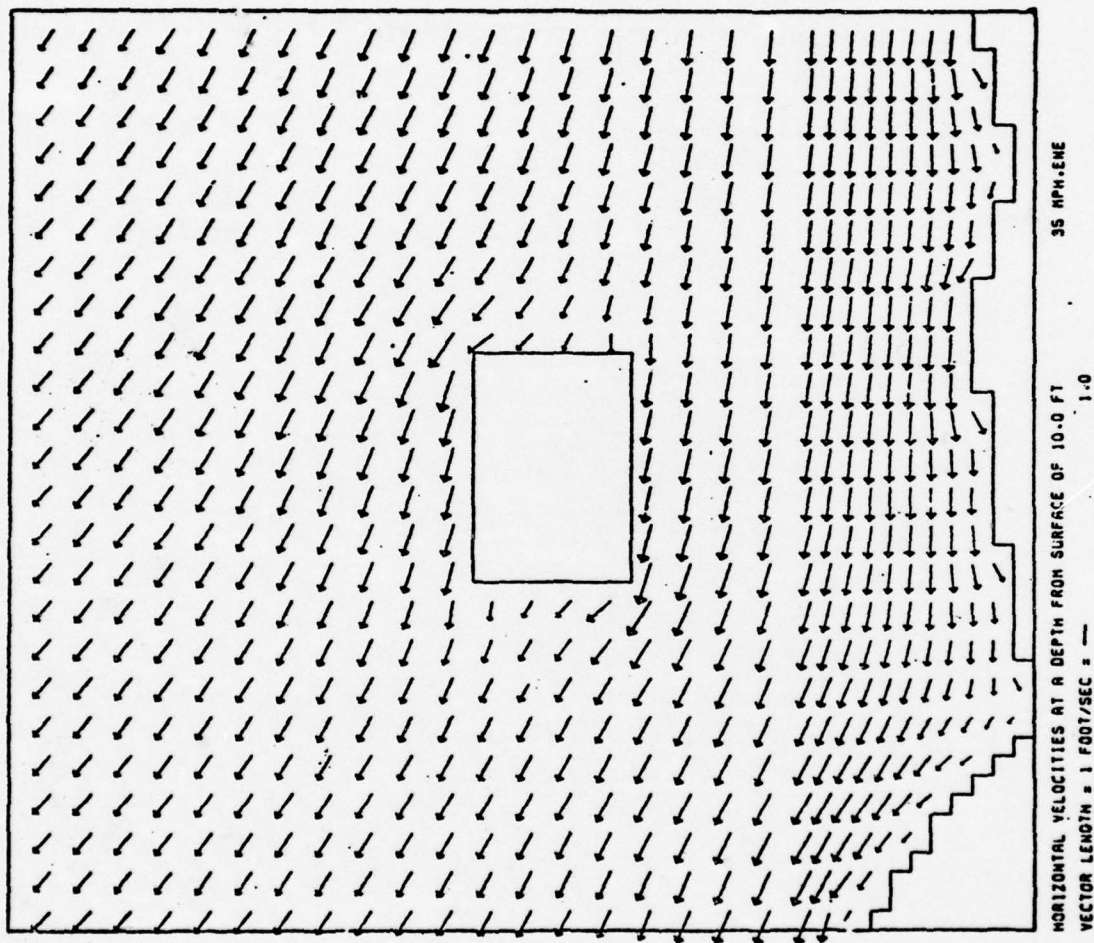
VECTOR LENGTH = 1 FOOT/SEC = —

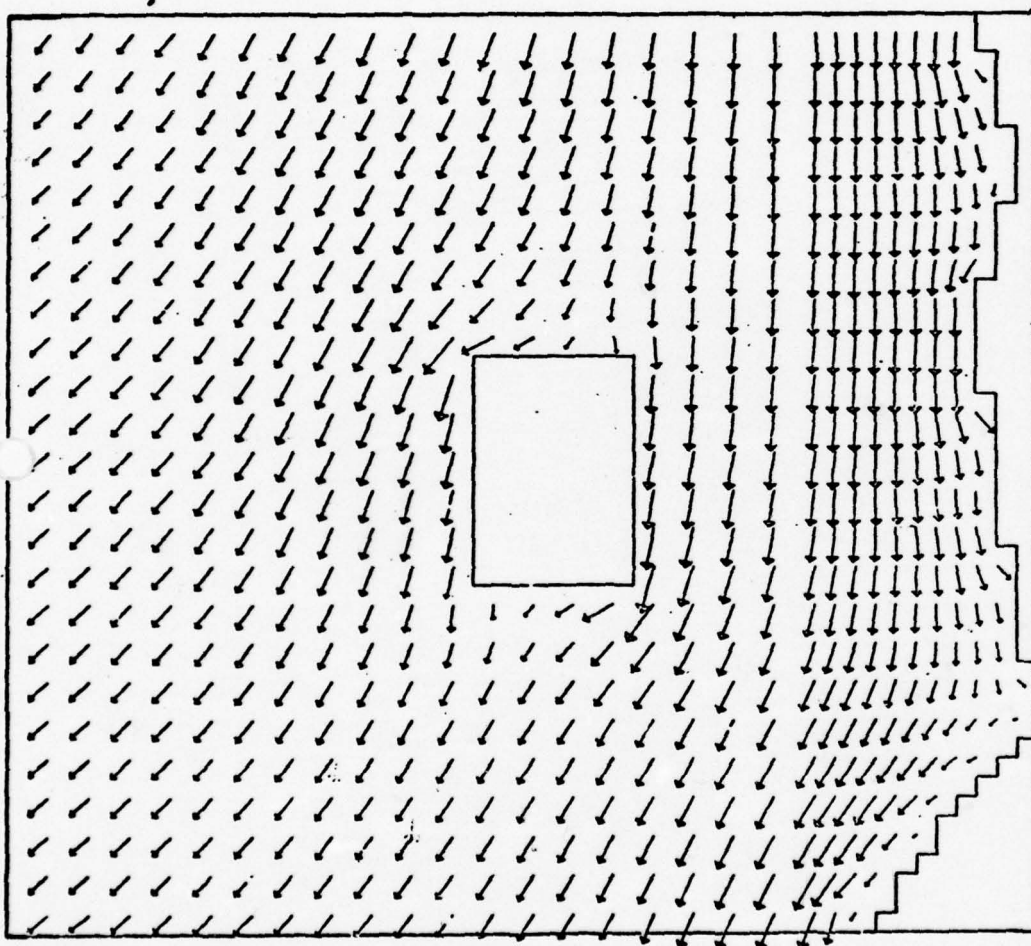


35 MPH.ENE

1.0

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 0.0 FT
VECTOR LENGTH = 1 FOOT/SEC = -

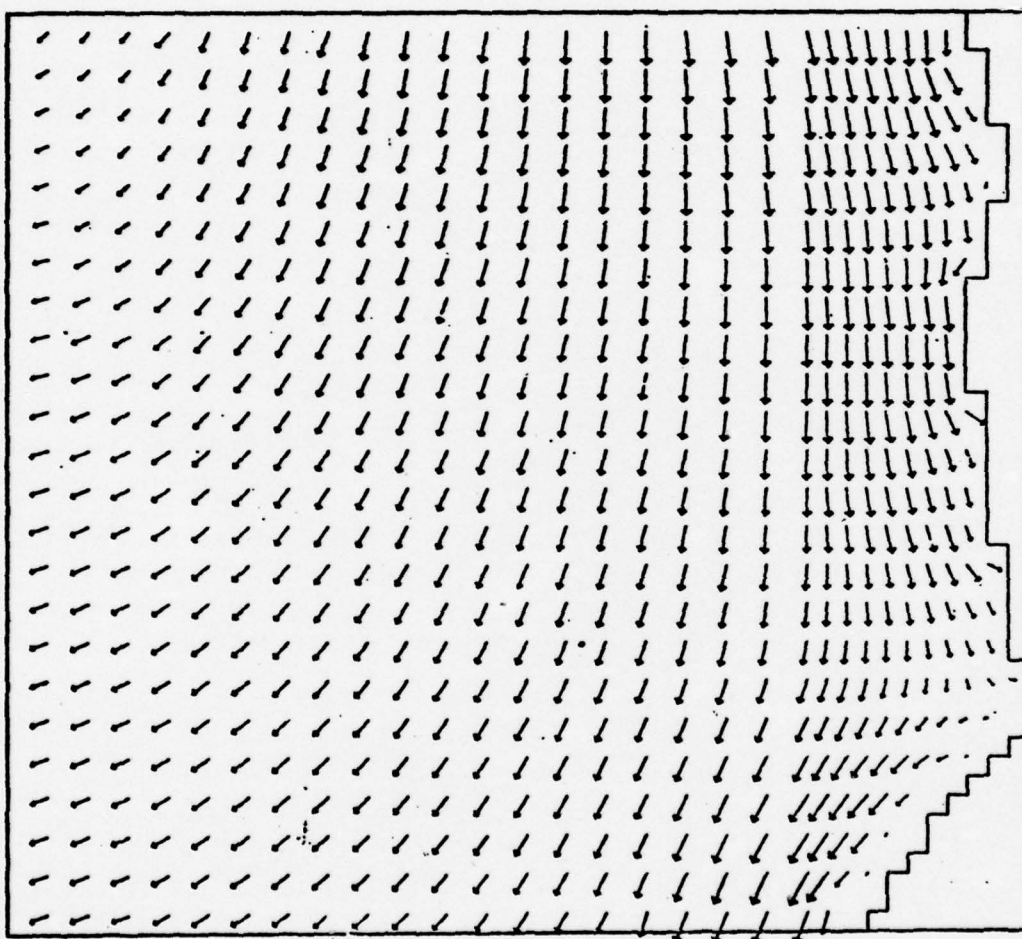




35 MPH,ENE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 15.0 FT

VECTOR LENGTH = 1 FOOT/SEC = — 1.0

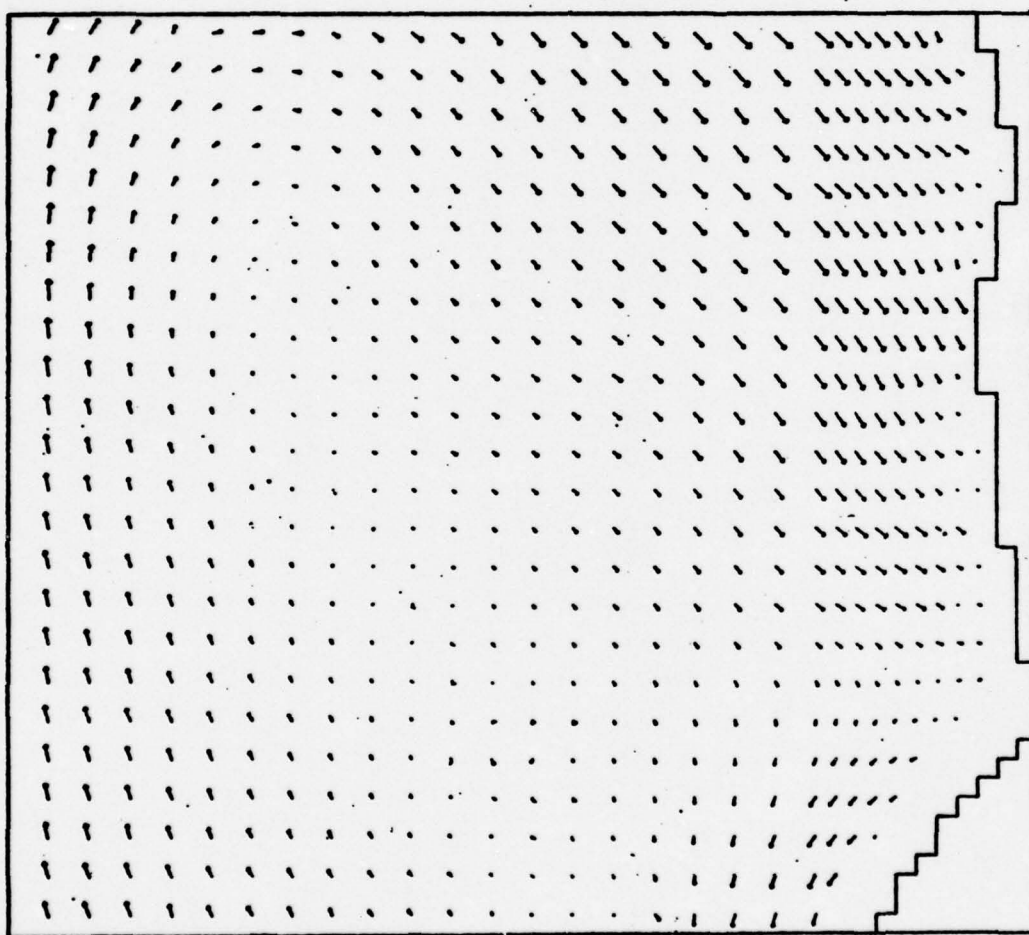


35 MPH/SEC

1.0

—

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 20.0 FT
VECTOR LENGTH = 1 FOOT/SEC =

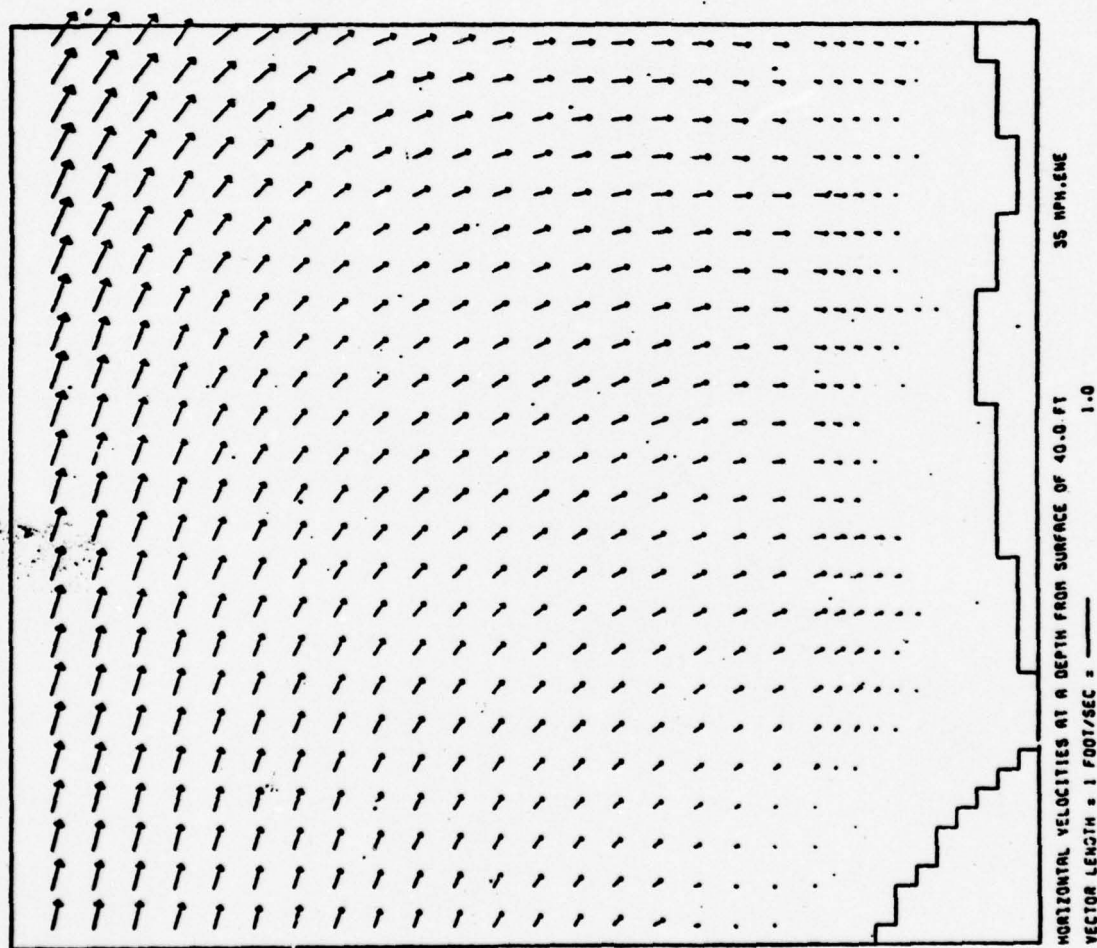


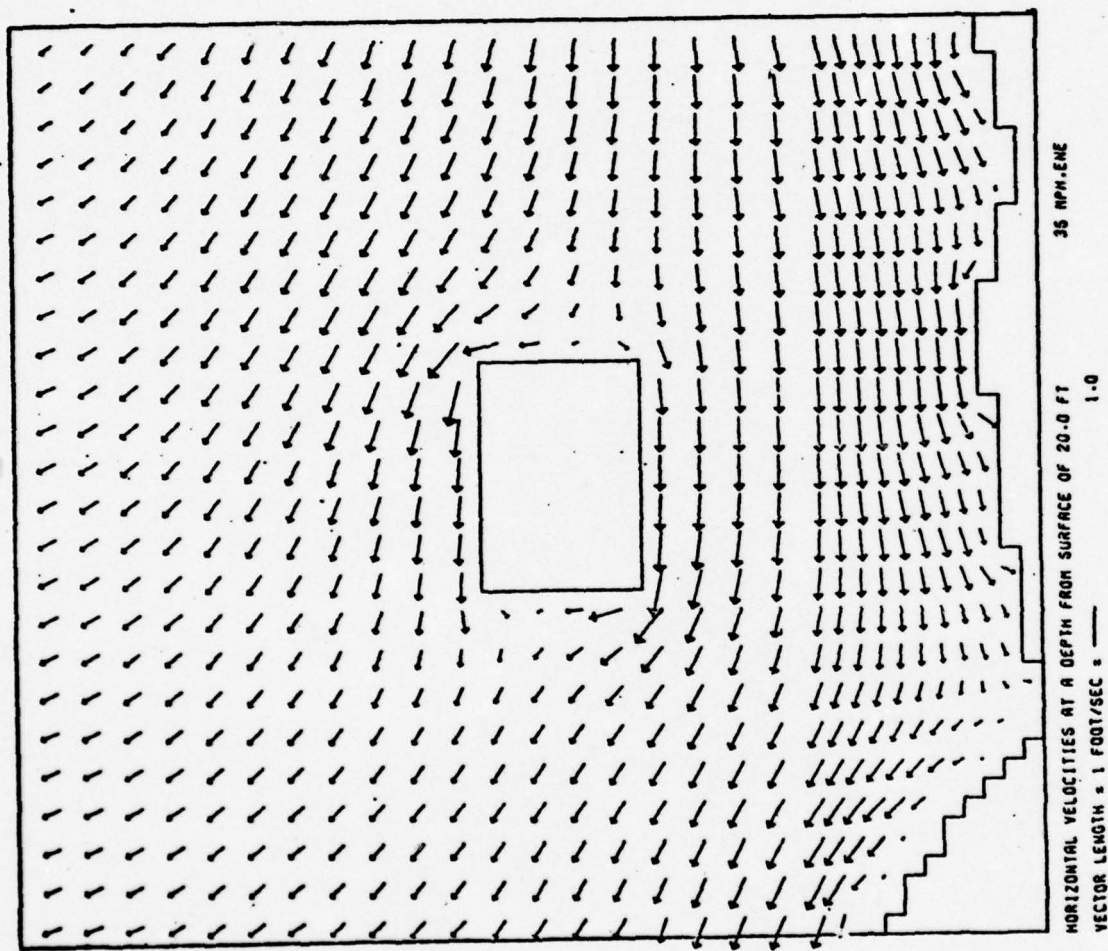
35 MPH/ENE

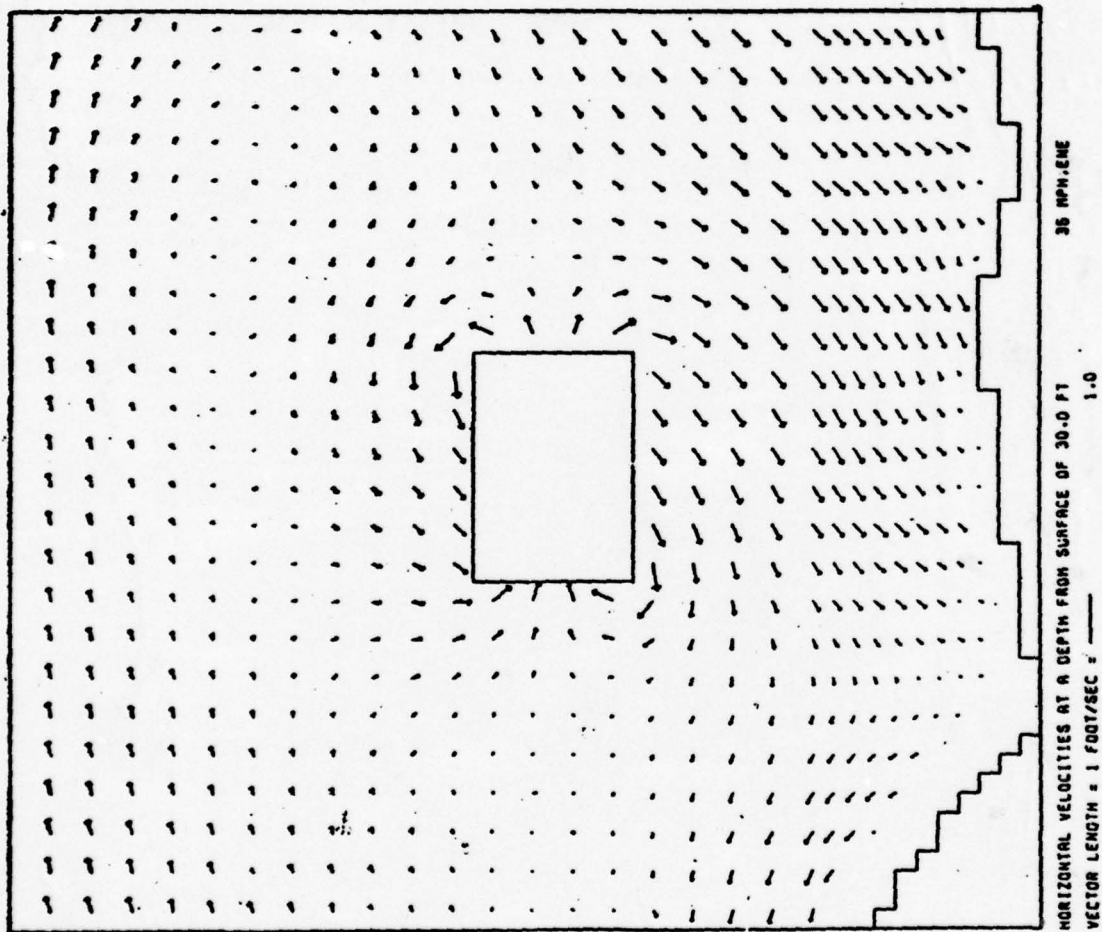
HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 30.0 FT

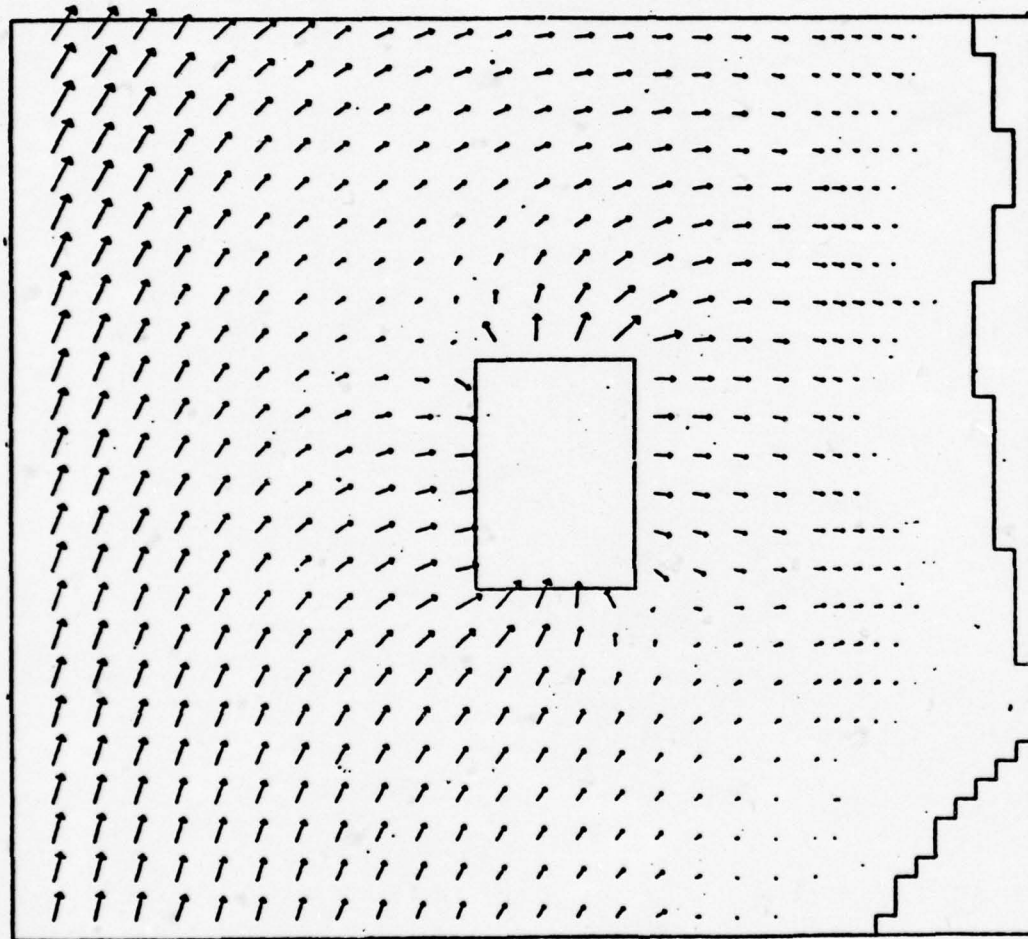
1.0

VECTOR LENGTH = 1 FOOT/SEC = —





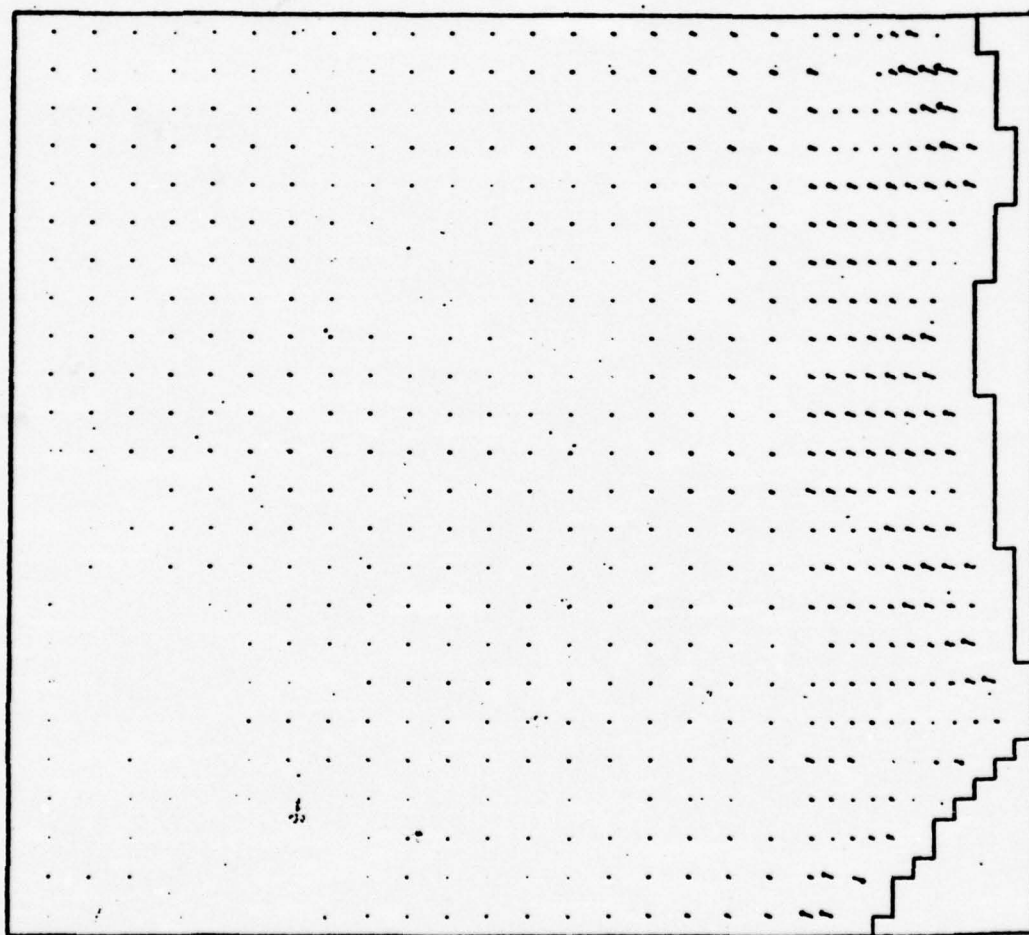


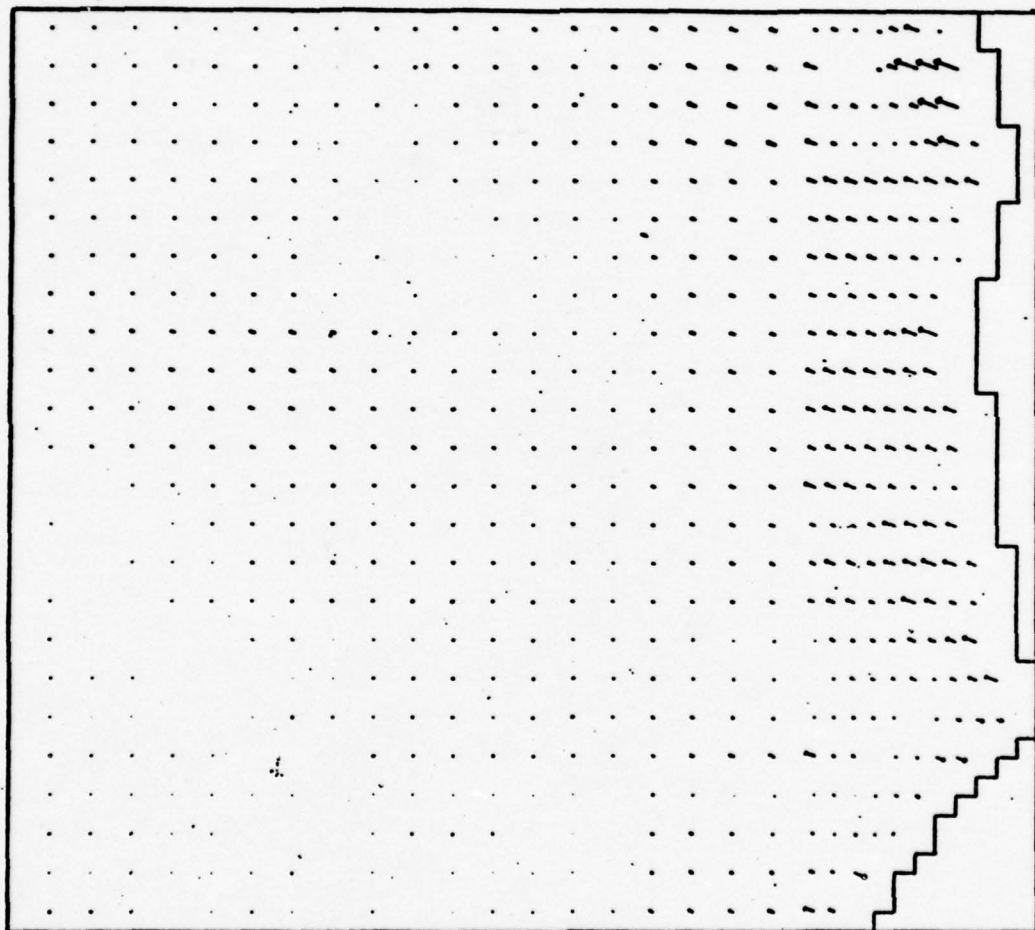


36 MPH.ENE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 40.0 FT

VECTOR LENGTH = 1 FOOT/SEC = 1.0

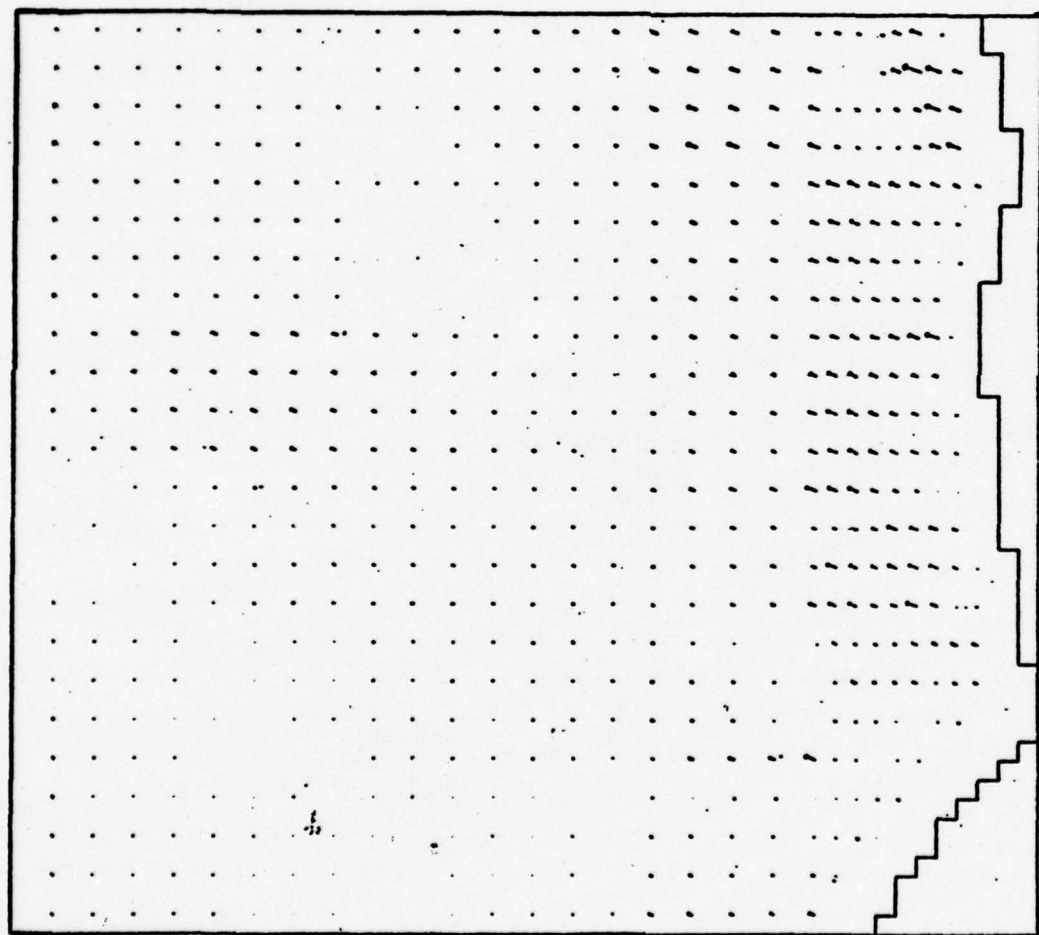




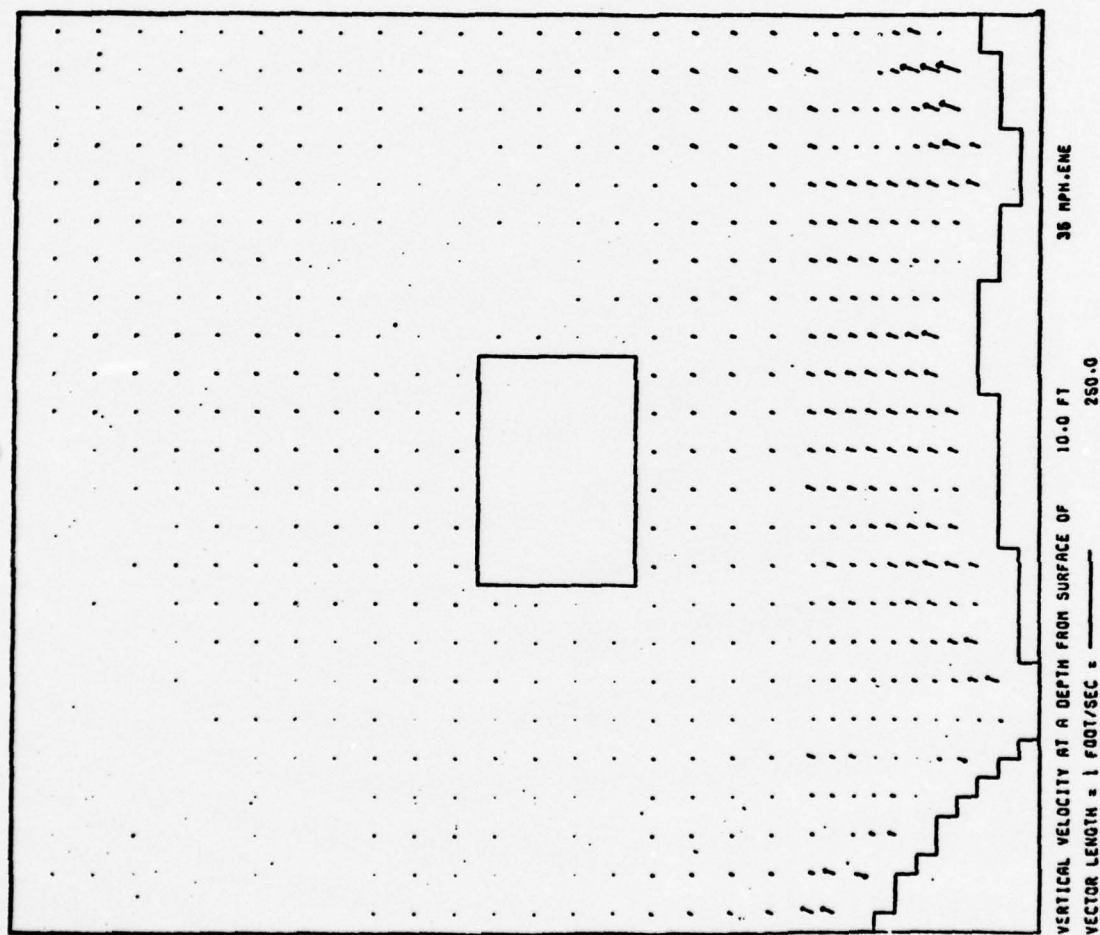
35 MPH-ENE

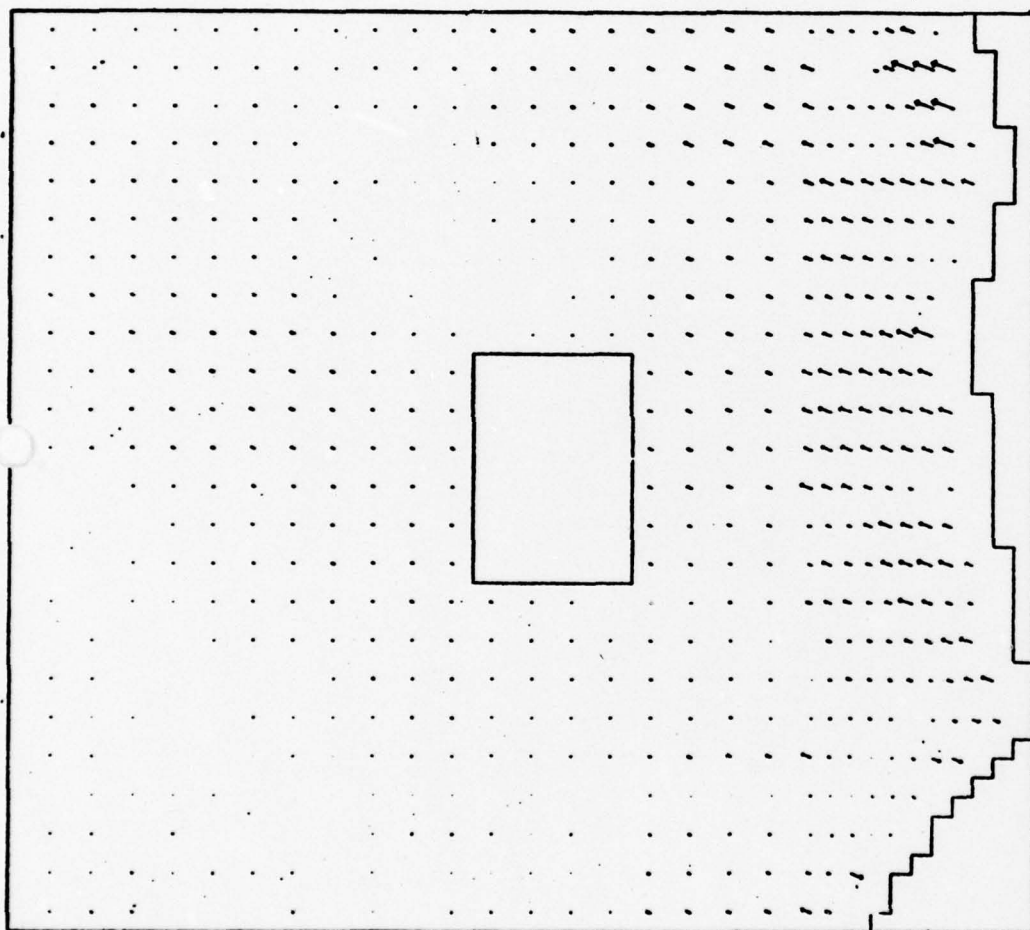
20.0 FT 250.0

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF _____
VECTOR LENGTH = 1 FOOT/SEC = _____



VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF 30.0 FT 35 MPH/ENE
VECTOR LENGTH = 1 FOOT/SEC = 250.0





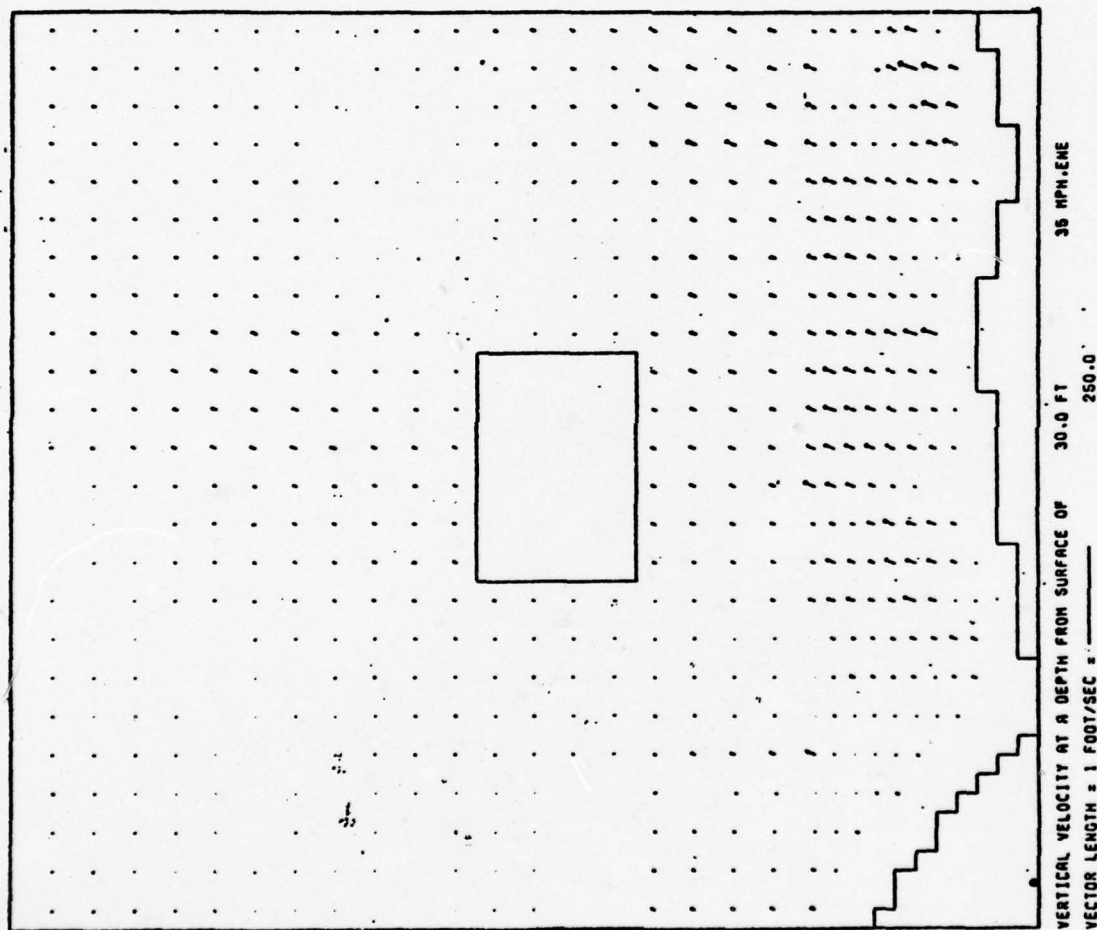
35 MPH.ENE

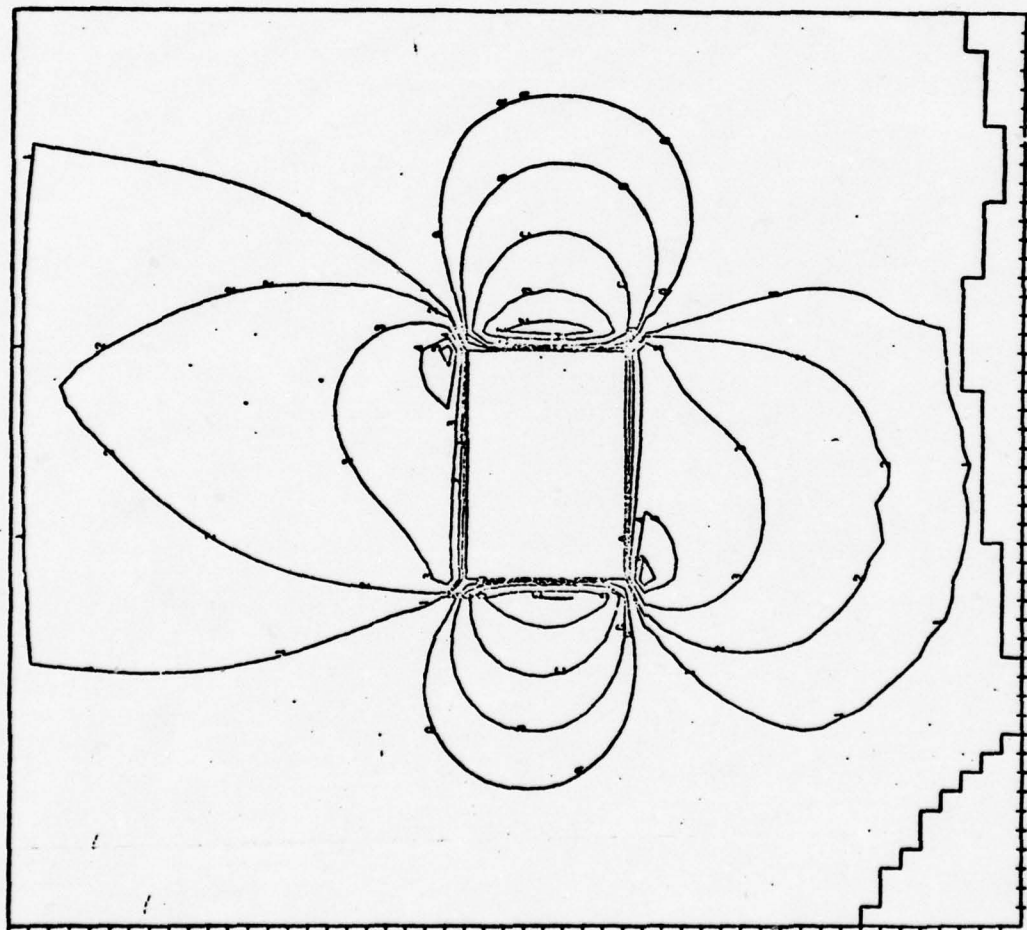
20.0 FT

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

250.0

VECTOR LENGTH = 1 FOOT/SEC =





SYMBOLS
- - - - -

CONTOUR LEVELS
0.050
0.100
0.200
0.400
0.600
0.800
1.000
1.500
2.000
-0.050
-0.100
-0.200
-0.400
-0.600
-0.800
-1.000
-1.500
-2.000

CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

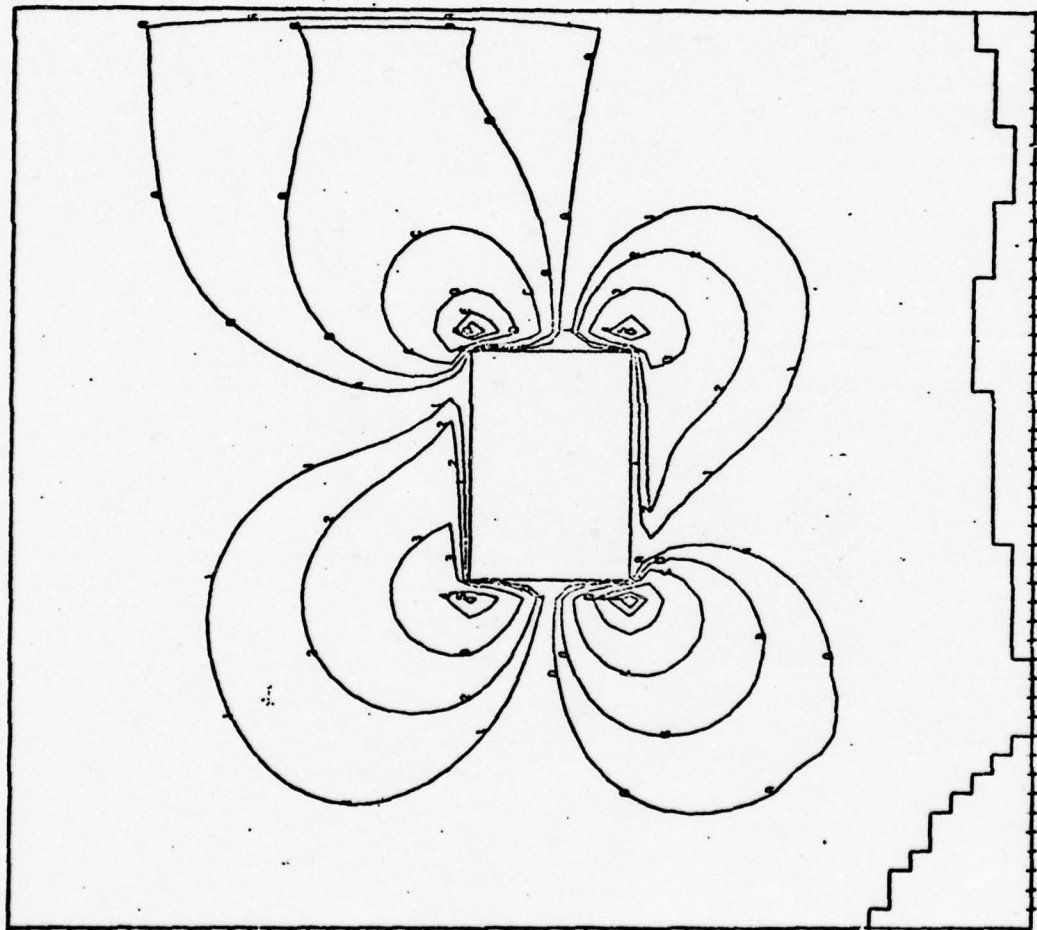
U.D=0.H=35ENE

CONTOUR LEVELS

0.050
0.100
0.200
0.400
0.600
0.800
1.000
1.500
2.000
-0.050
-0.100
-0.200
-0.400
-0.600
-0.800
-1.000
-1.500
-2.000

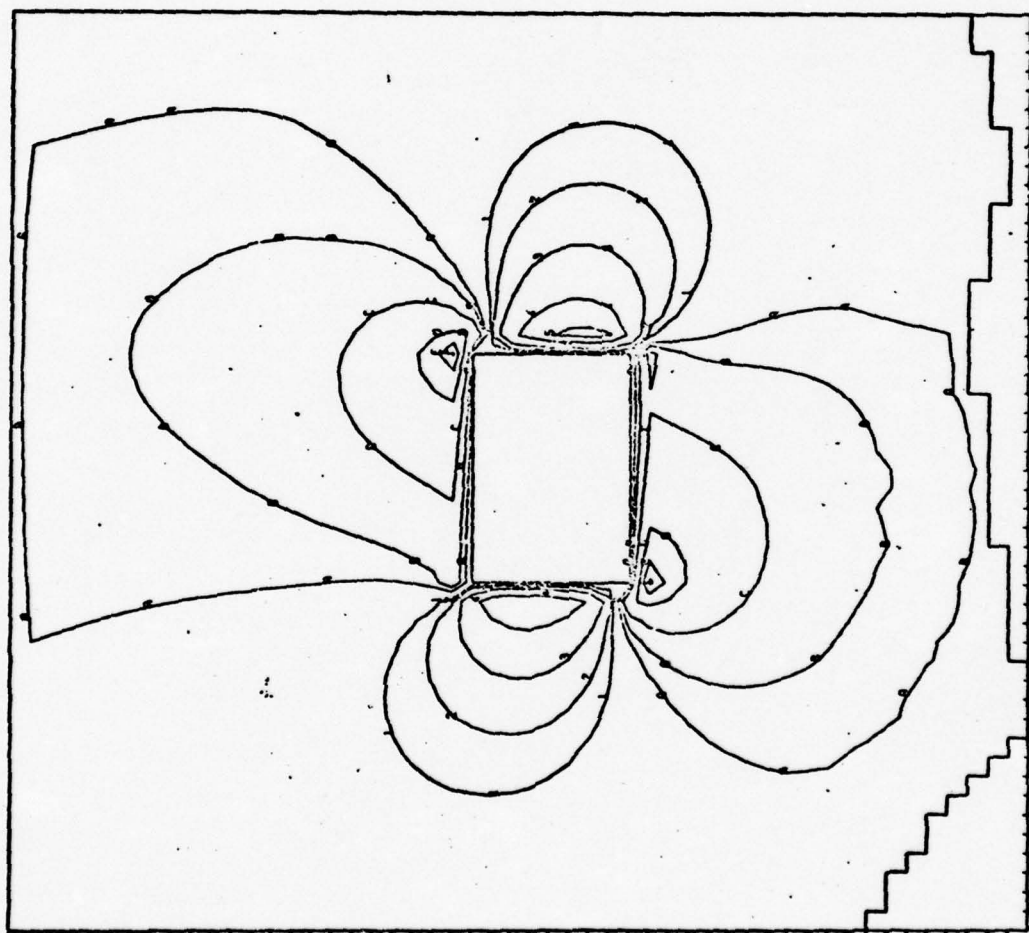
SYMBOLS

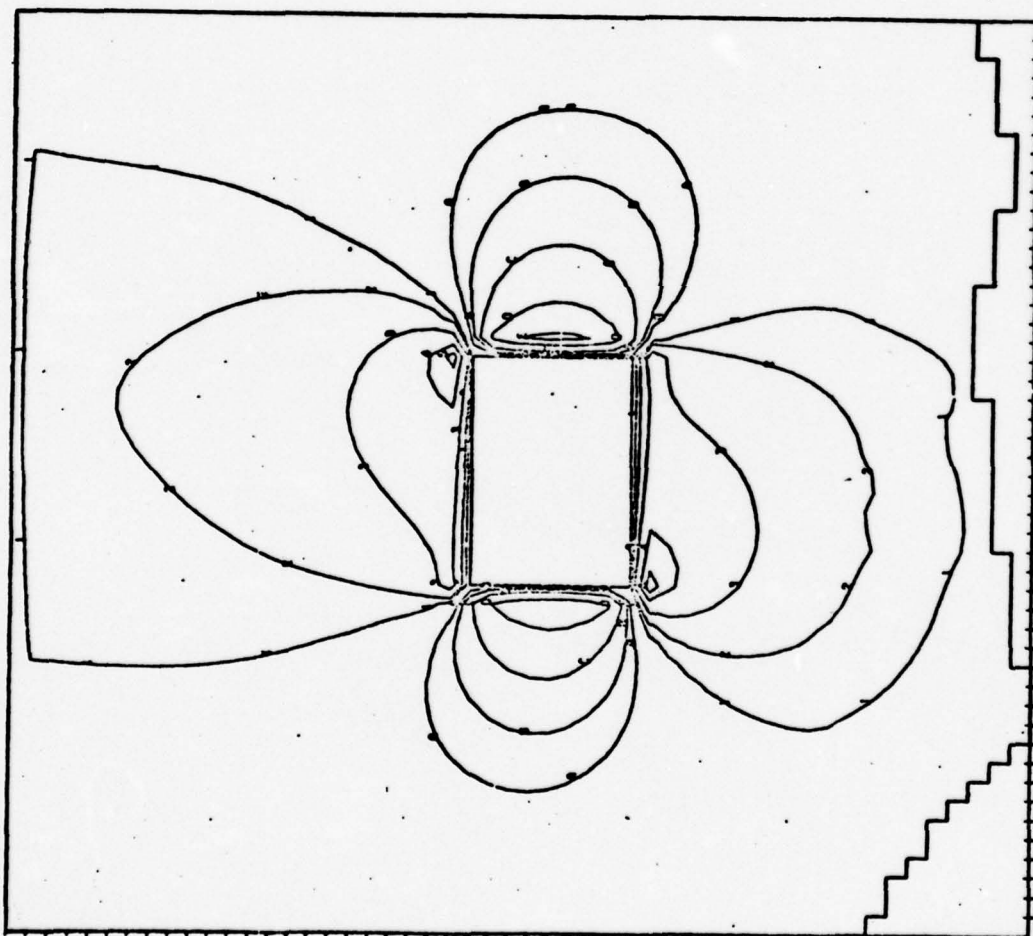
--- CONTINUOUS ---



CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

V.D=0.4-35ENE



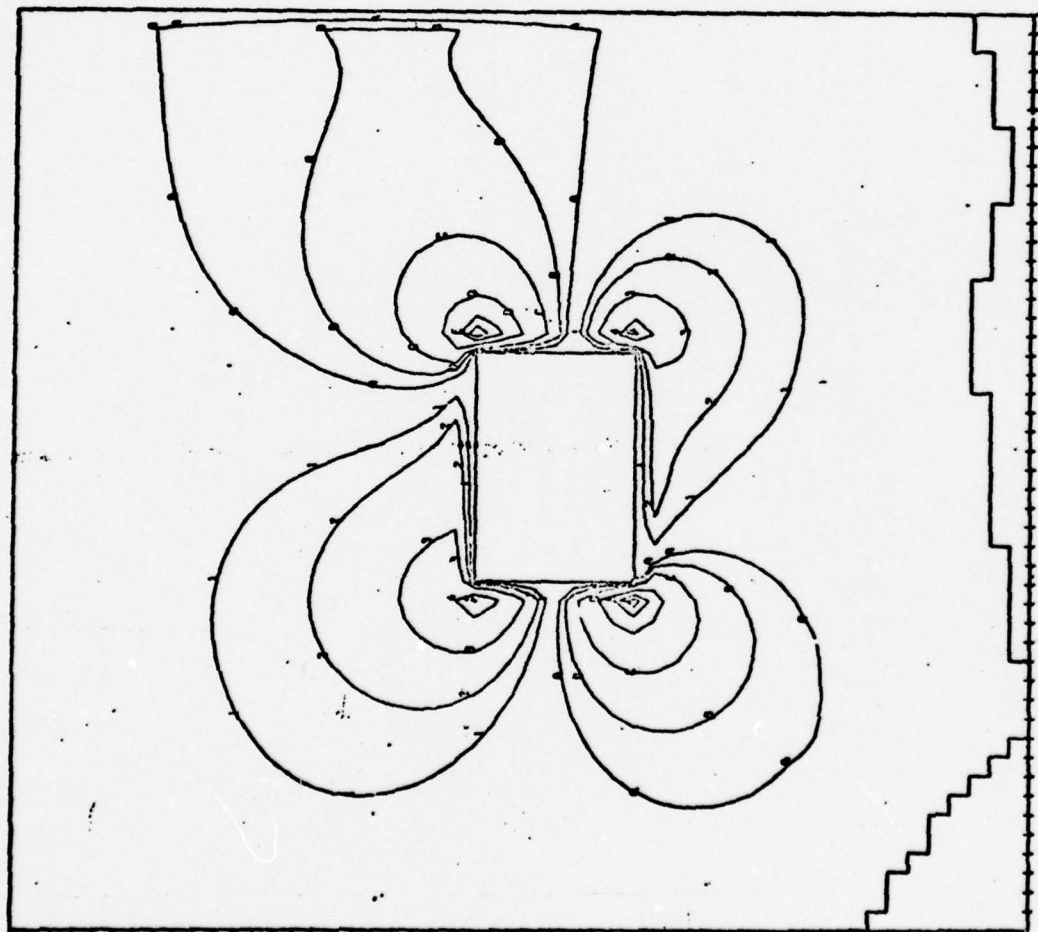


CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

U.D=15.M=35ENE

SYMBOLS
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

CONTOUR LEVELS
0.050
0.100
0.200
0.400
0.600
0.800
1.000
1.500
2.000
3.000
4.000
5.000
6.000
7.000
8.000
9.000
10.000
11.000
12.000
13.000
14.000
15.000
16.000
17.000
18.000
19.000
20.000
21.000
22.000
23.000
24.000
25.000
26.000
27.000
28.000
29.000
30.000
31.000
32.000
33.000
34.000
35.000
36.000
37.000
38.000
39.000
40.000
41.000
42.000
43.000
44.000
45.000
46.000
47.000
48.000
49.000
50.000
51.000
52.000
53.000
54.000
55.000
56.000
57.000
58.000
59.000
60.000
61.000
62.000
63.000
64.000
65.000
66.000
67.000
68.000
69.000
70.000
71.000
72.000
73.000
74.000
75.000
76.000
77.000
78.000
79.000
80.000
81.000
82.000
83.000
84.000
85.000
86.000
87.000
88.000
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94.000
95.000
96.000
97.000
98.000
99.000
100.000

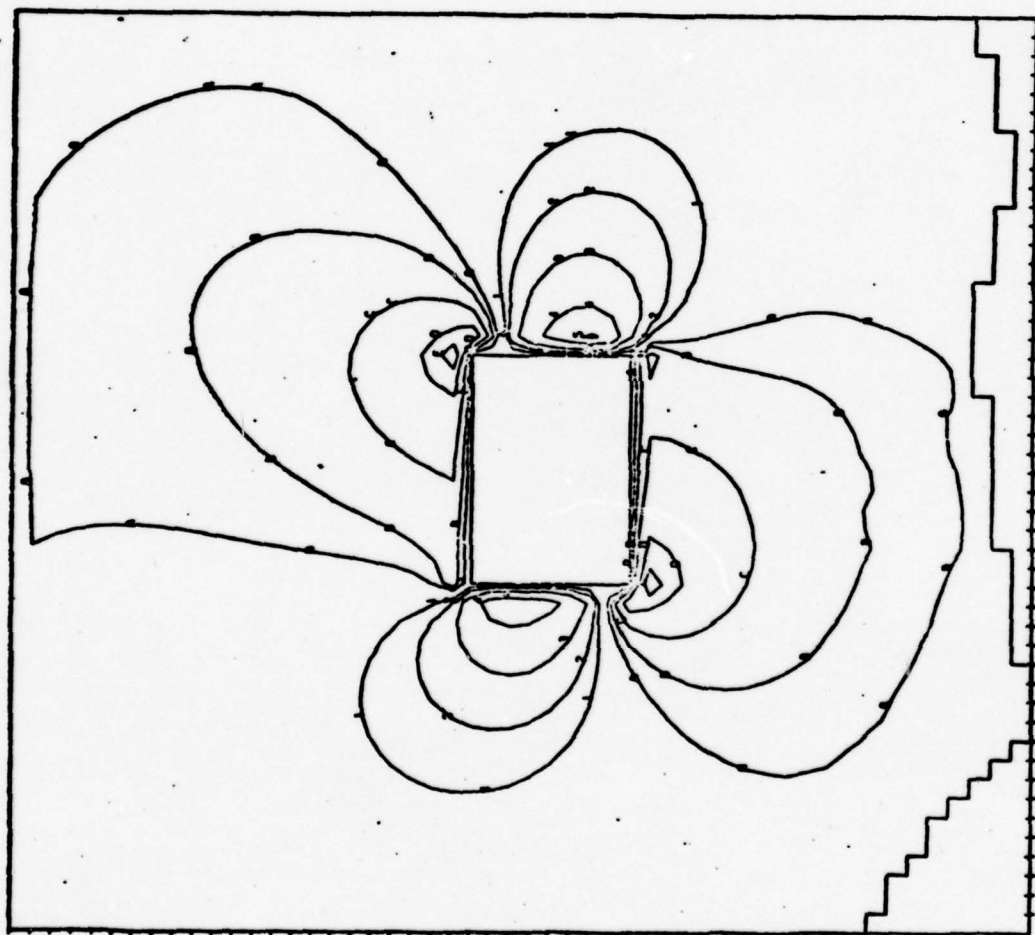


SYMBOLS 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

CONTOUR LEVELS
 0.050
 0.100
 0.150
 0.200
 0.250
 0.300
 0.400
 0.500
 0.600
 0.800
 1.000
 1.500
 2.000
 -0.050
 -0.100
 -0.150
 -0.200
 -0.250
 -0.300
 -0.400
 -0.500
 -0.600
 -0.800
 -1.000
 -1.500
 -2.000

CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

V.O=15.H=35ENE

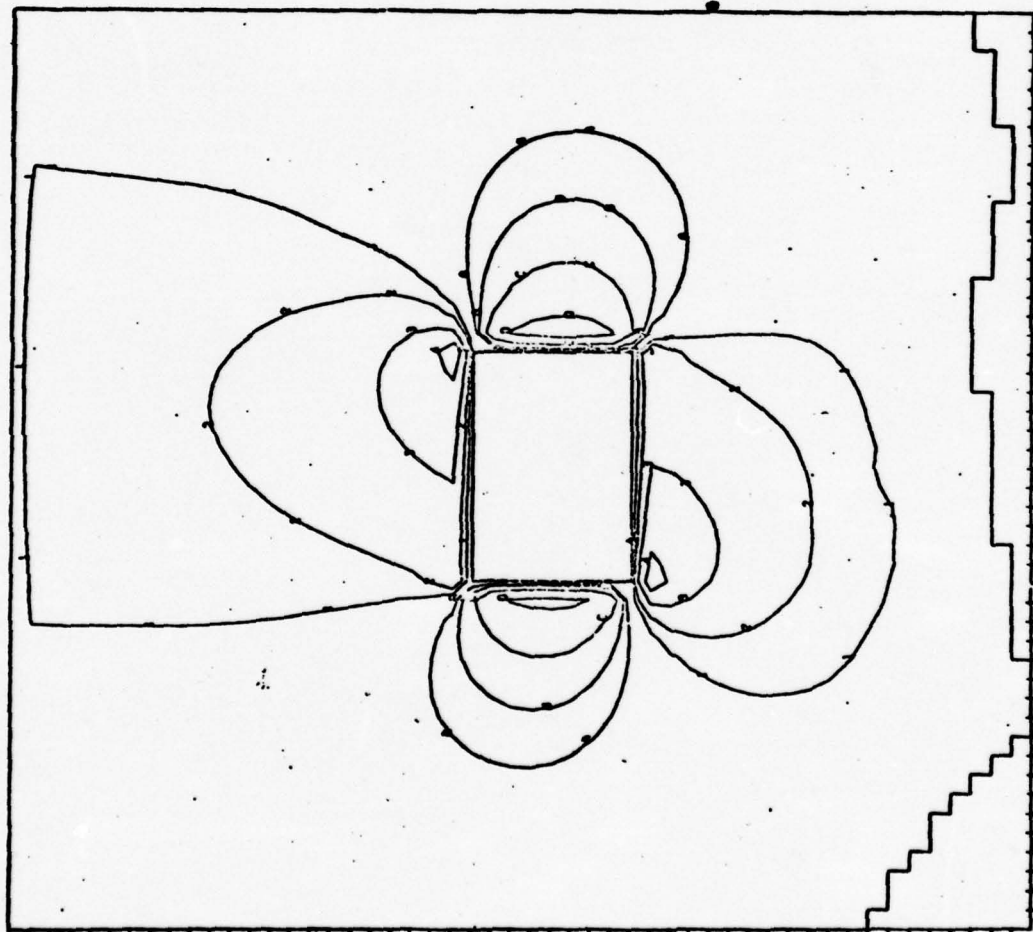


CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

SYMBOLS
CONTOUR LEVELS

0.050
0.100
0.200
0.400
0.600
0.800
1.000
1.200
1.400
1.600
1.800
2.000
2.200
2.400
2.600
2.800
3.000
3.200
3.400
3.600
3.800
4.000
4.200
4.400
4.600
4.800
5.000
5.200
5.400
5.600
5.800
6.000
6.200
6.400
6.600
6.800
7.000
7.200
7.400
7.600
7.800
8.000
8.200
8.400
8.600
8.800
9.000
9.200
9.400
9.600
9.800
10.000

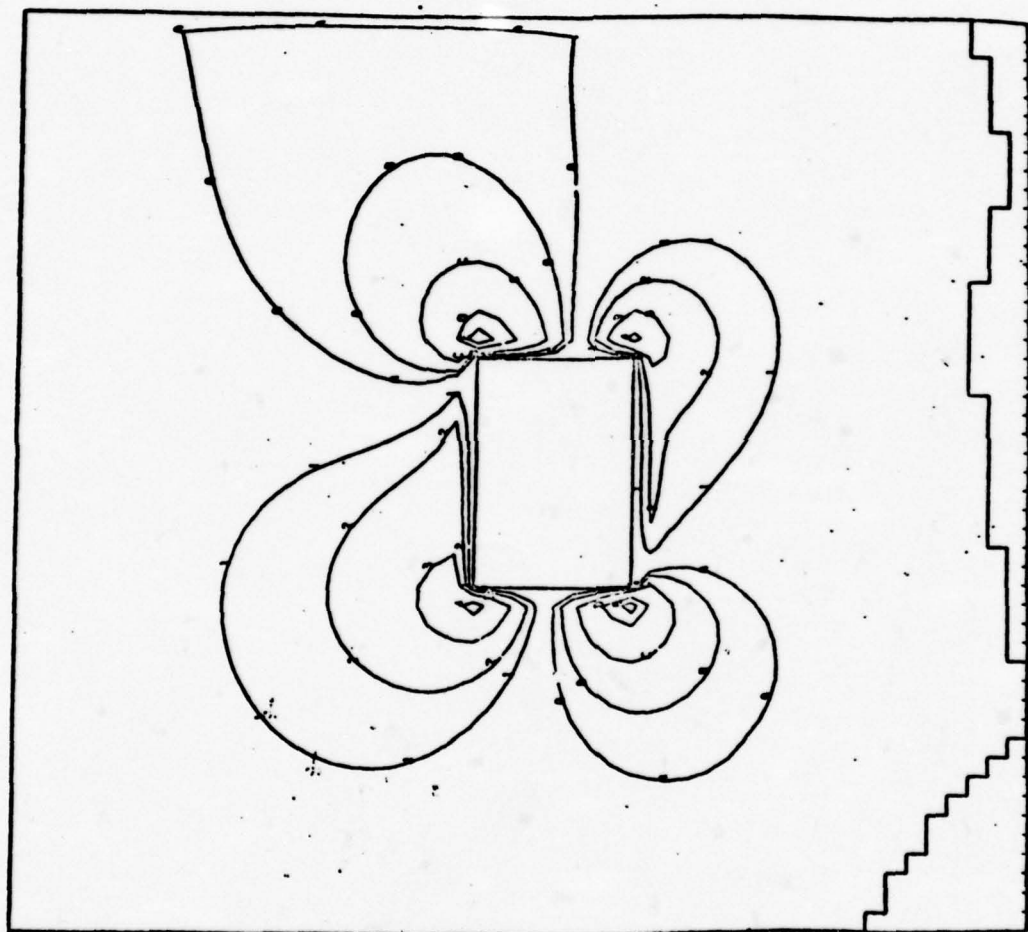
N.O-15.N-35ENE



SYMBOLS
 0.050
 0.100
 0.200
 0.400
 0.600
 0.800
 1.000
 1.500
 2.000
 -0.050
 -0.100
 -0.200
 -0.400
 -0.600
 -0.800
 -1.000
 -1.500
 -2.000

CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

U.O=30.H=3SENE



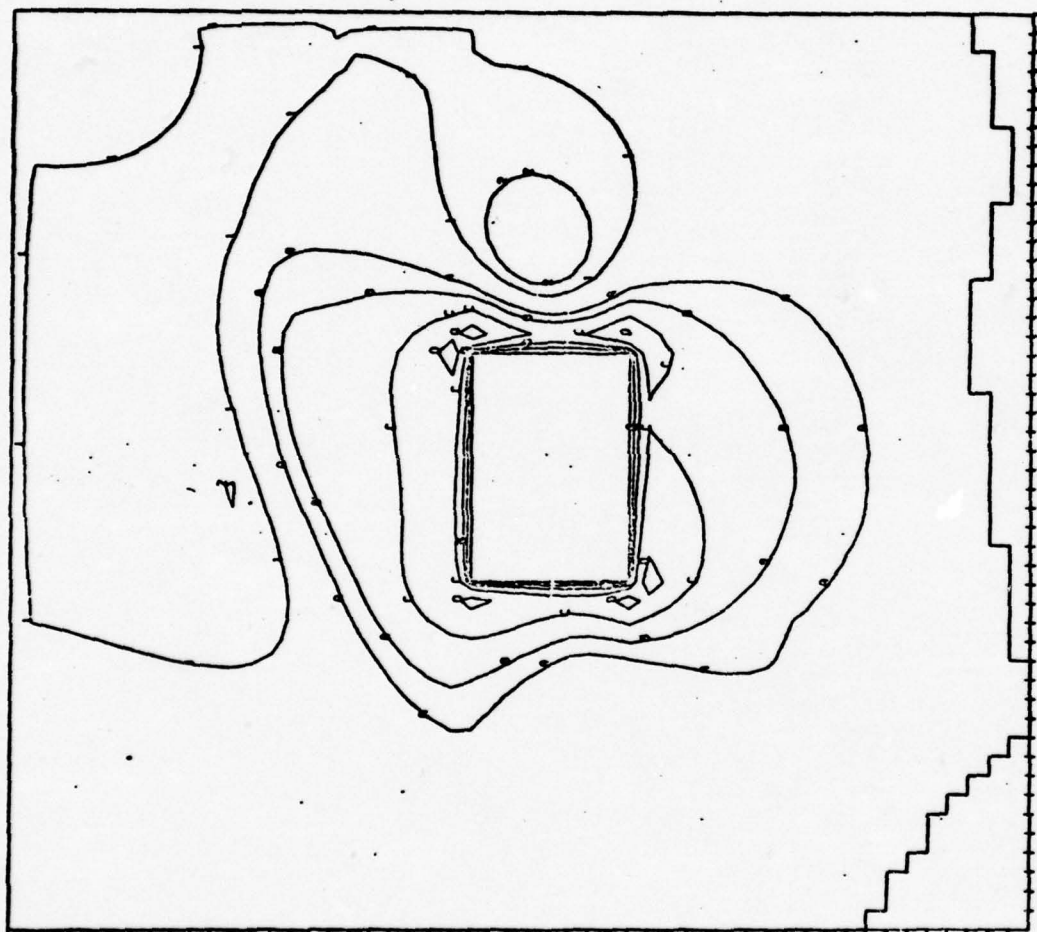
CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

CONTOUR LEVELS

0.050
0.100
0.200
0.400
0.600
0.800
1.000
1.500
2.000
-0.050
-0.100
-0.200
-0.400
-0.600
-0.800
-1.000
-1.500
-2.000

SYMBOLS

---X---M---P---S---U---C---M---L---O---I---



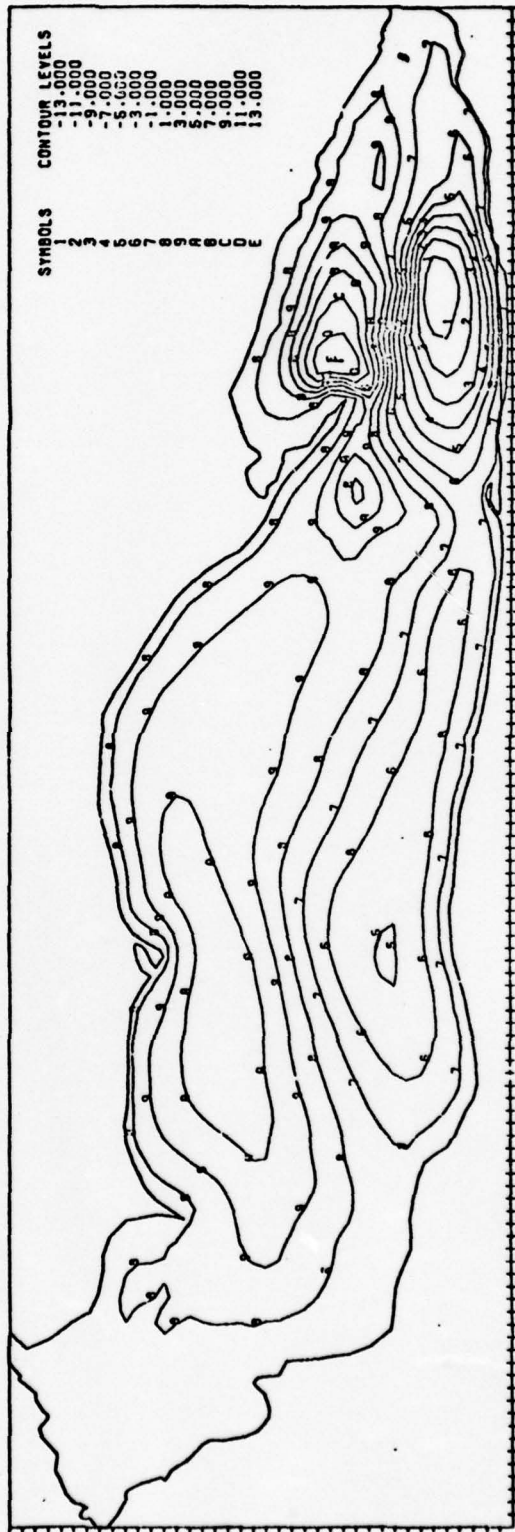
SYMBOLS

CONTOUR LEVELS

0.050
0.100
0.200
0.400
0.600
0.800
1.000
1.500
2.000
-0.050
-0.100
-0.200
-0.400
-0.600
-0.800
-1.000
-1.500
-2.000

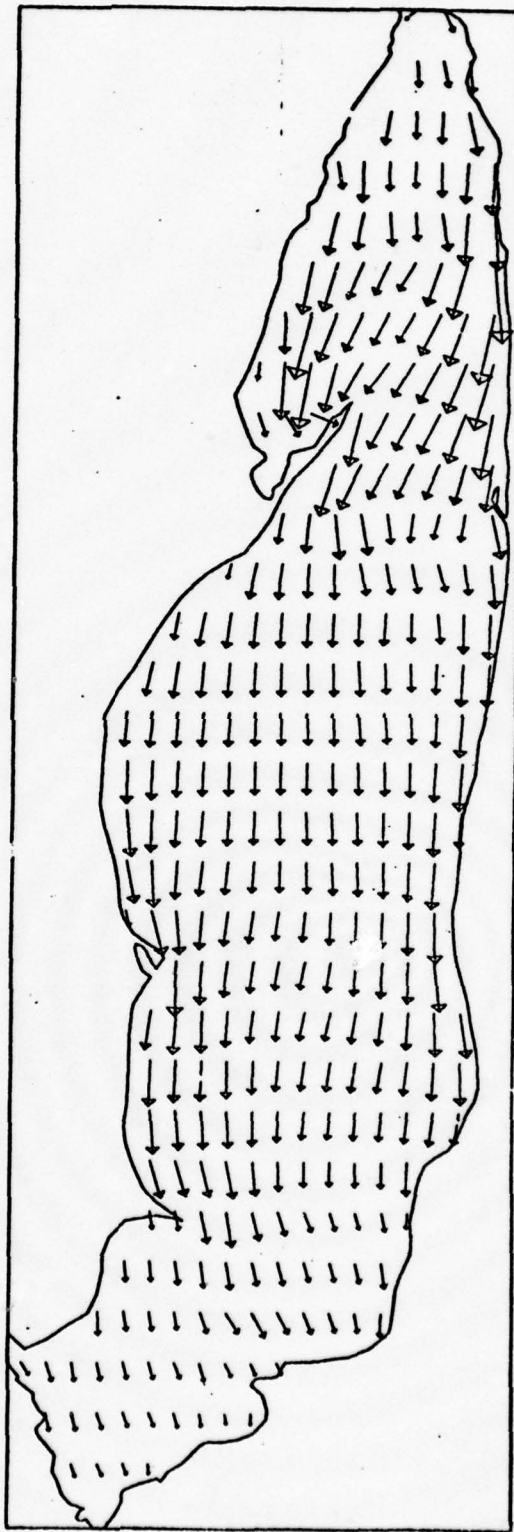
CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

M.O=30 .M=35ENE



WF=35MPH.NE

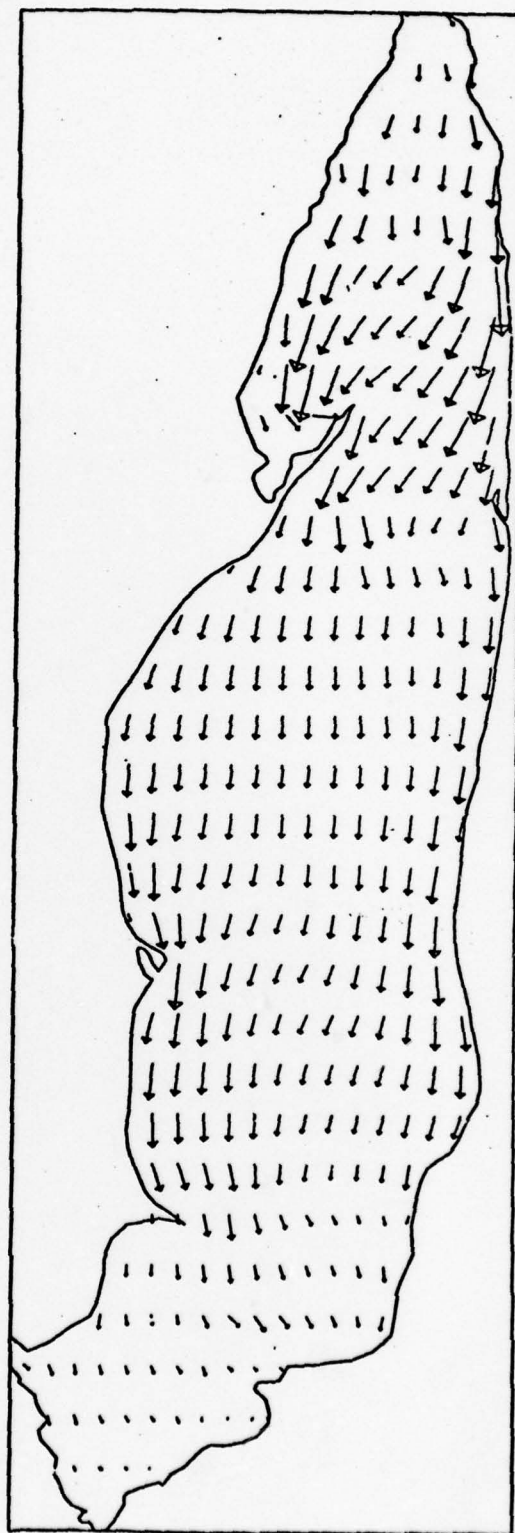
CONTOURS OF STREAM FUNCTION FOR LAKE ERIE -- FULL LAKE



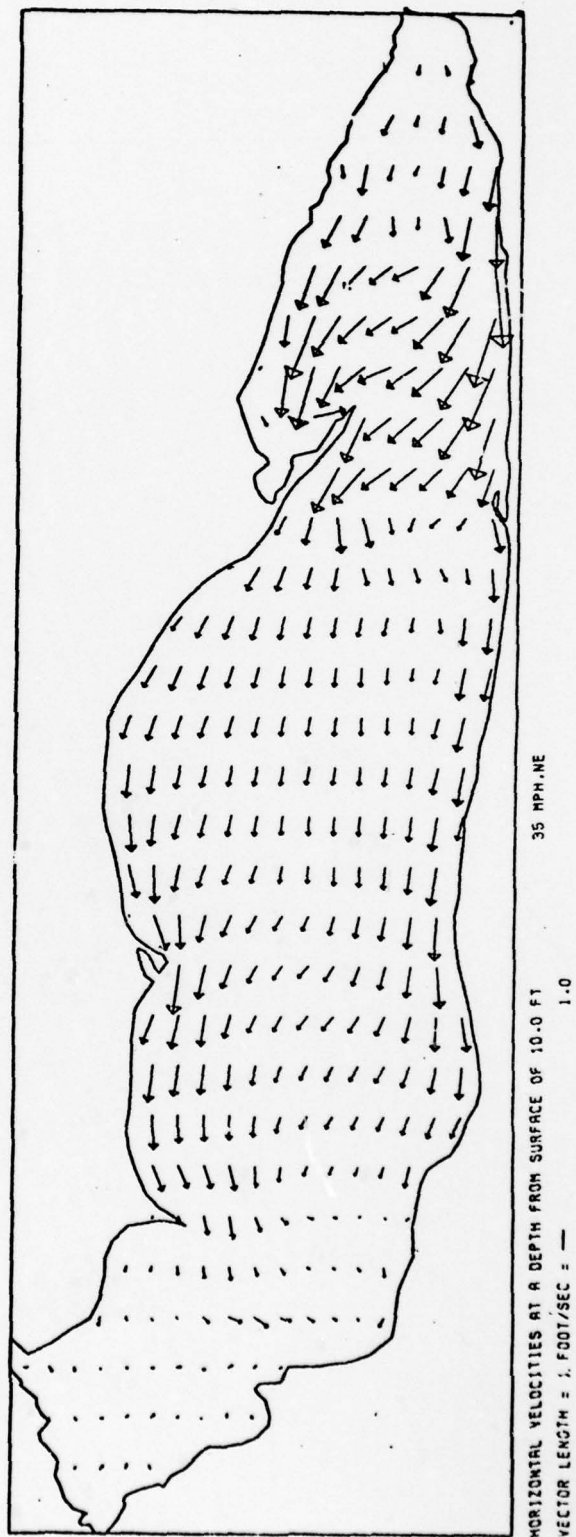
35 MPH, NE

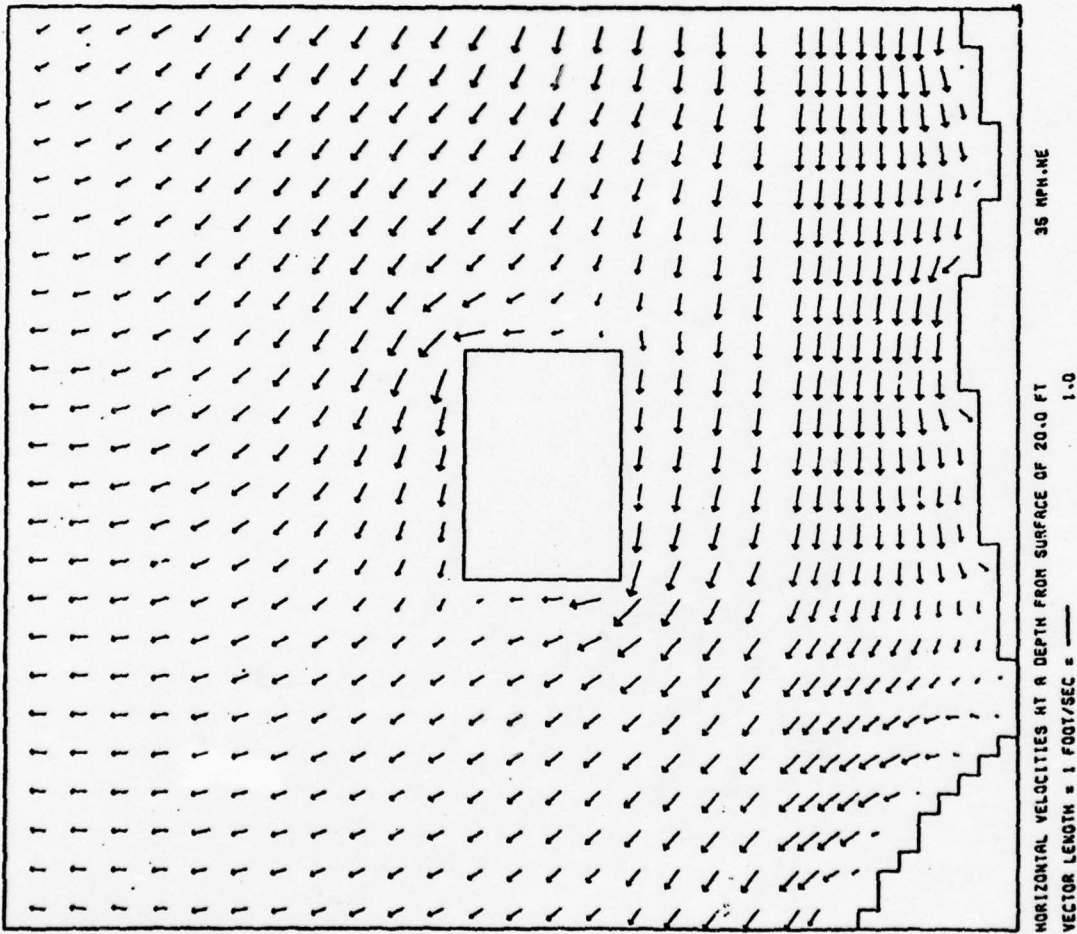
HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 0.0 FT

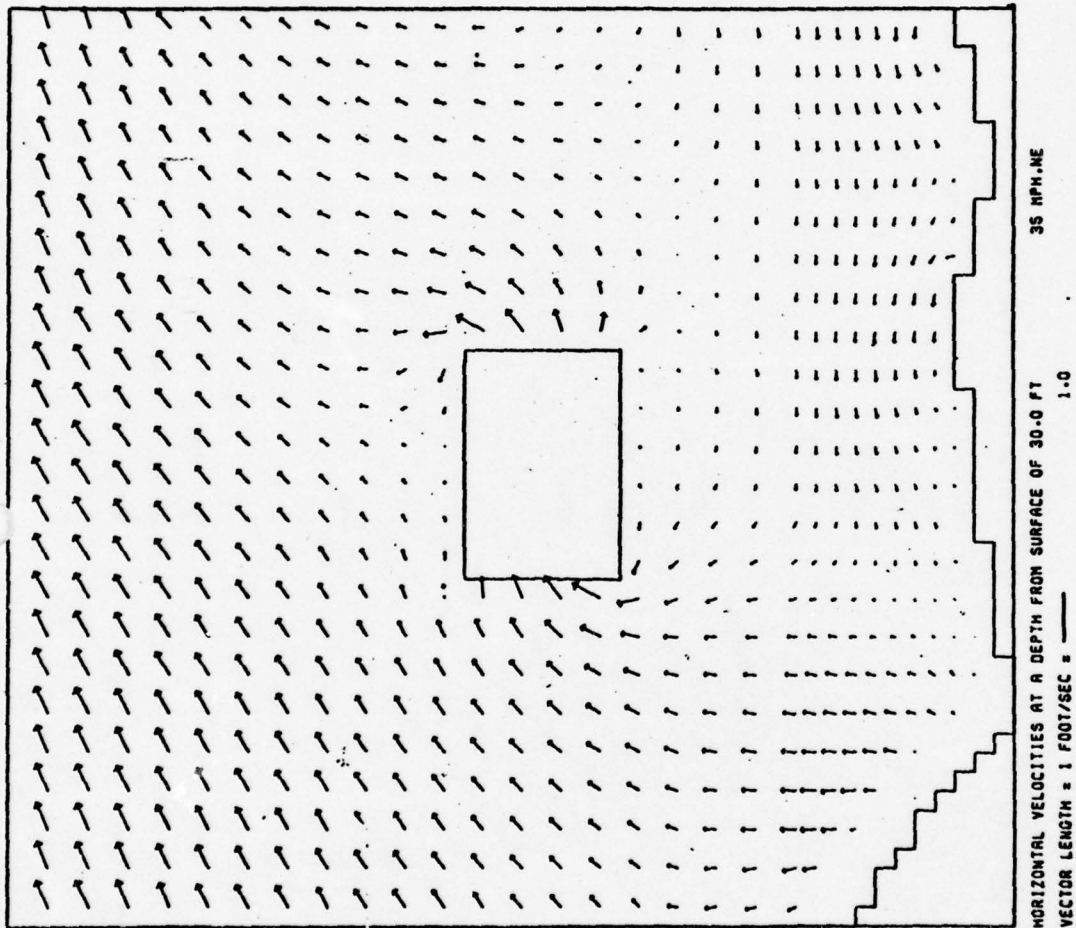
VECTOR LENGTH = 1 FOOT/SEC = — 1.0

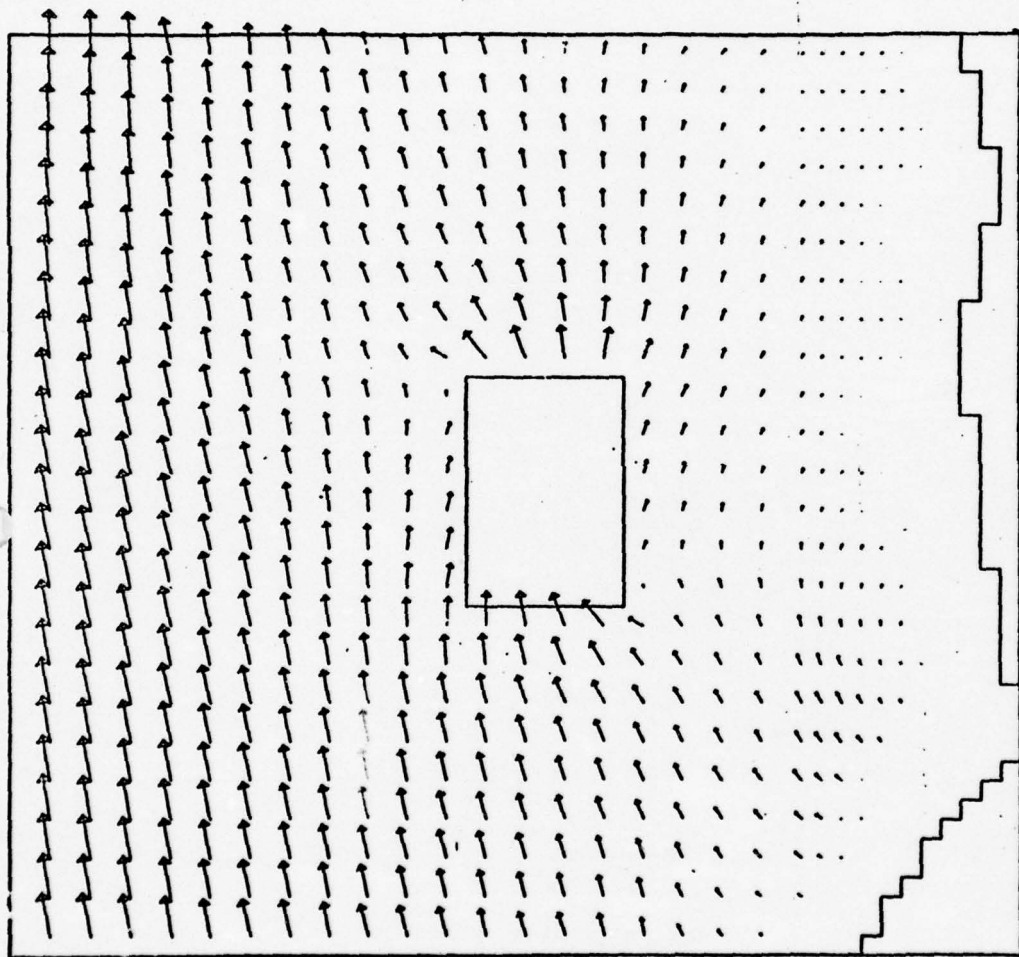


HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 5.0 FT
VECTOR LENGTH = 1 FOOT/SEC = — 35 MPH.NE 1.0





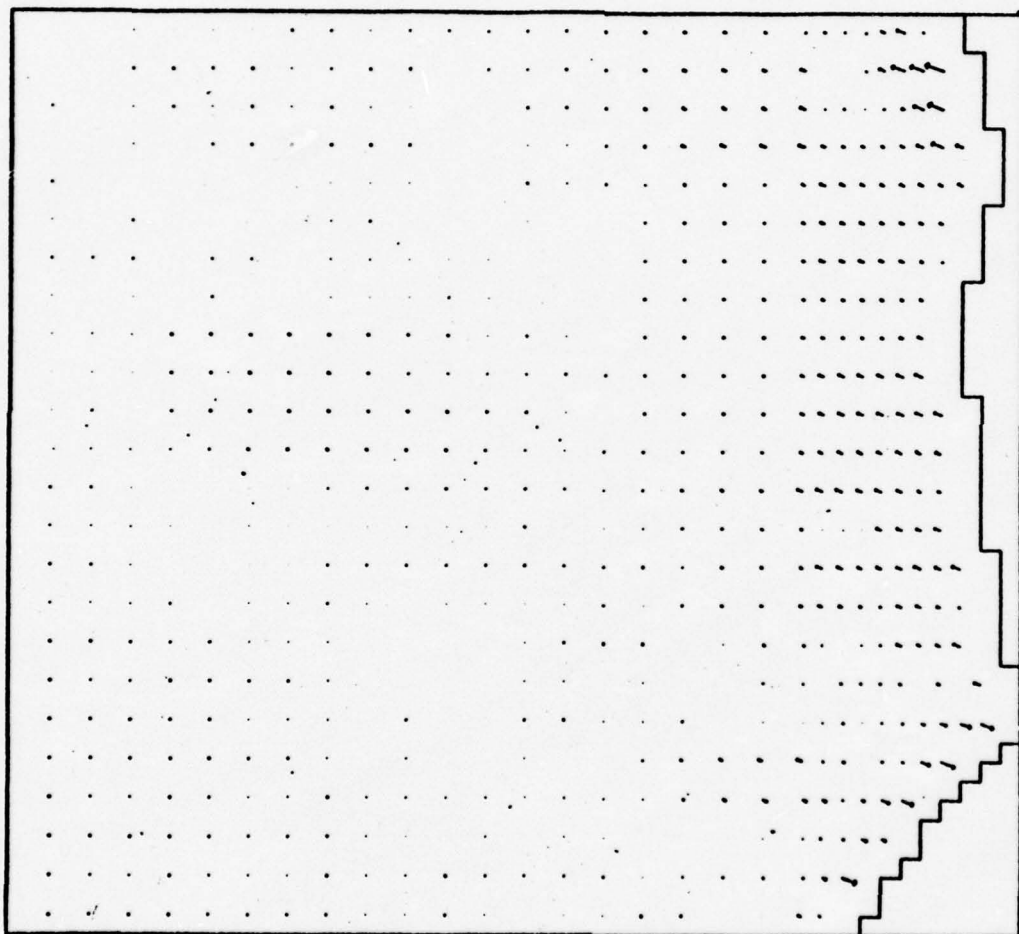




35 MPH.NE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 40.0 FT

VECTOR LENGTH = 1 FOOT/SEC = 1.0



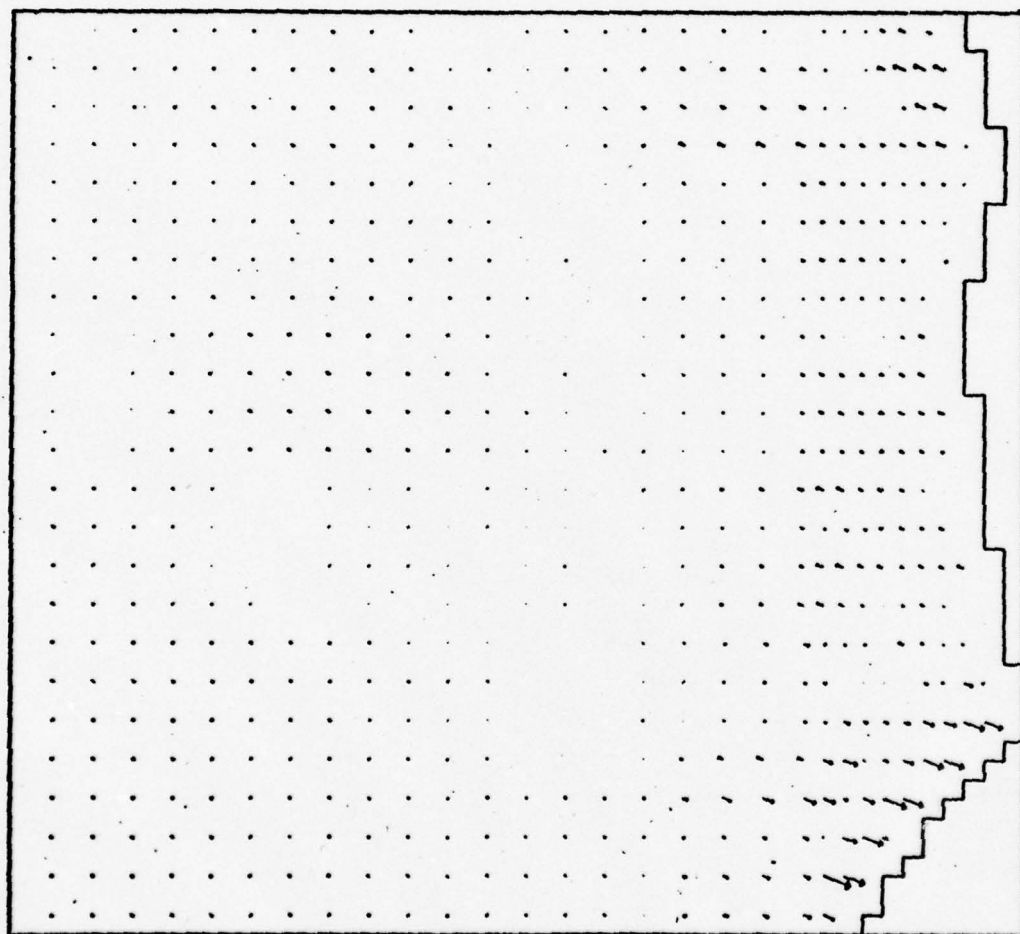
35 MPH.NE

10.0 FT

260.0

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

VECTOR LENGTH = 1 FOOT/SEC =



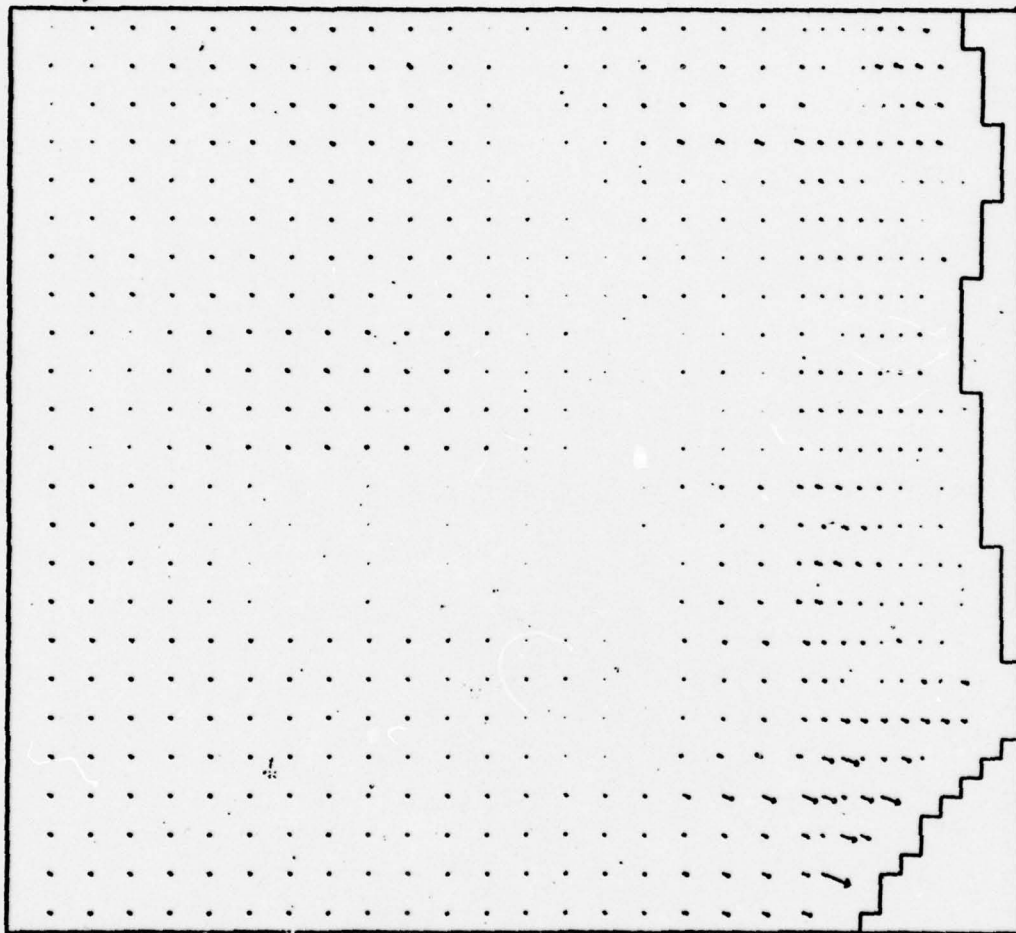
35 MPH.NE

20.0 FT

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

250.0

VECTOR LENGTH = 1 FOOT/SEC =



35 MPH.NE

30.0 FT

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

260.0

VECTOR LENGTH = 1 FOOT/SEC =



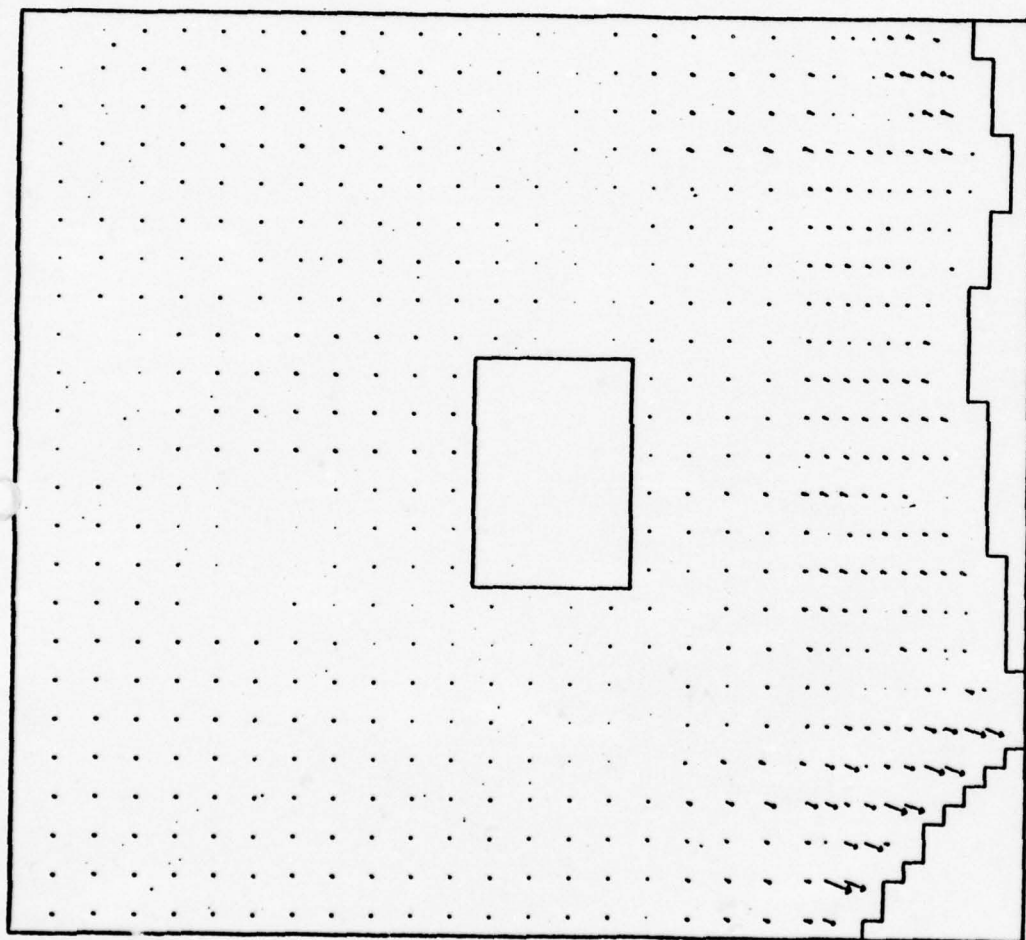
35 MPH.NE

10.0 FT

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

VECTOR LENGTH = 1 FOOT/SEC =

250.0



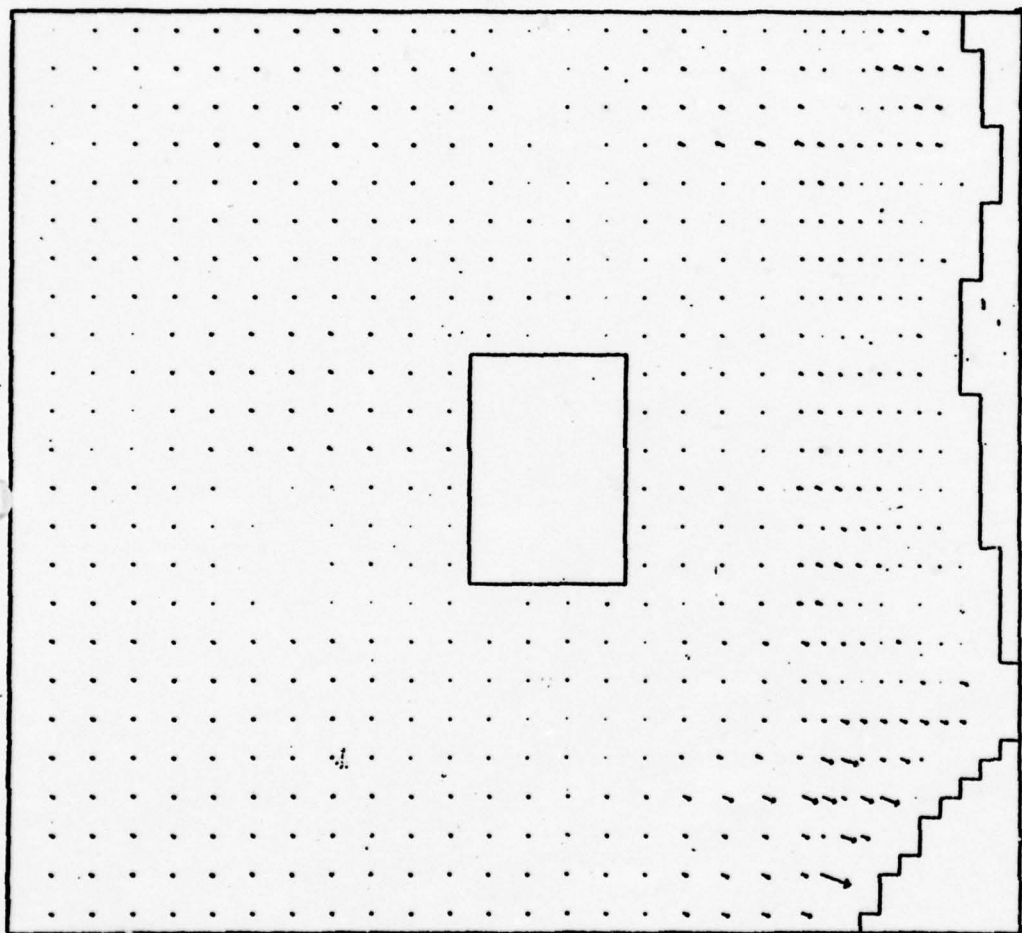
35 MPH.NE

20.0 FT

250.0

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

VECTOR LENGTH = 1 FOOT/SEC =

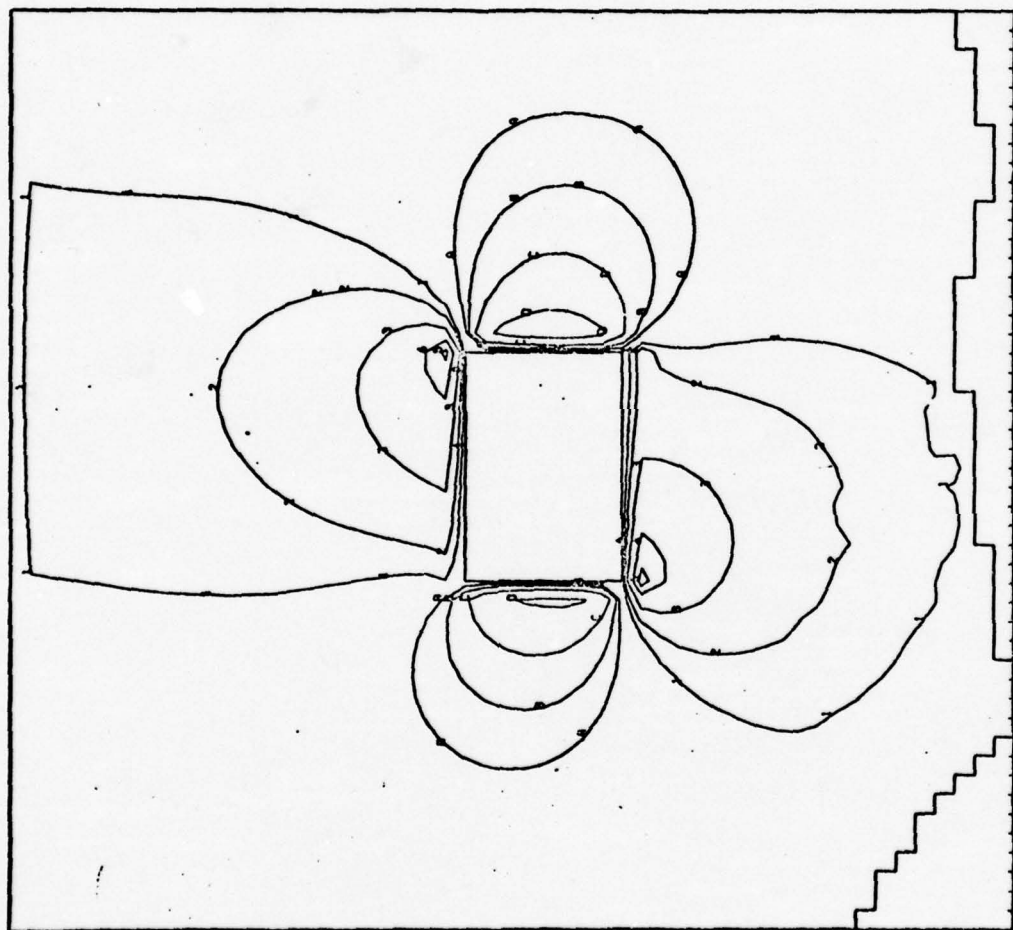


35 MPH.NE

30.0 FT

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

VECTOR LENGTH = 1 FOOT/SEC =



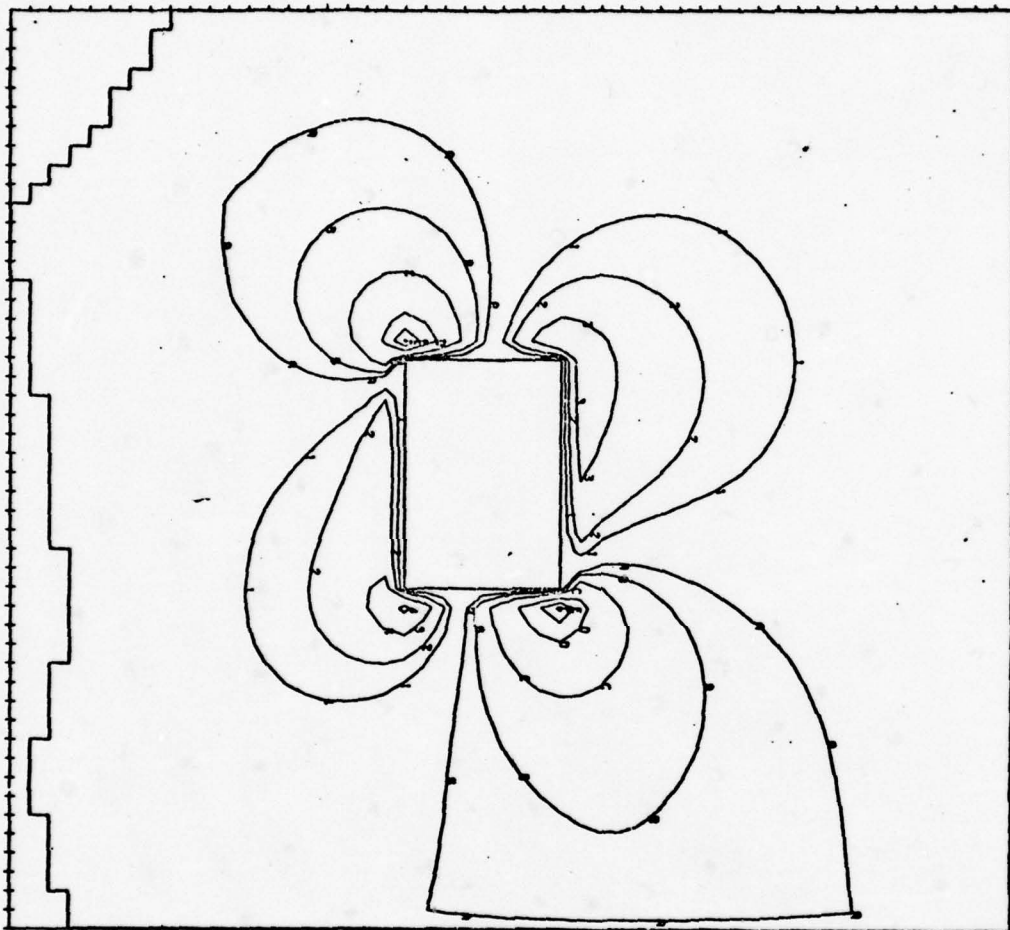
SYMBOLS
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

CONTOUR LEVELS
 0.050
 0.100
 0.200
 0.400
 0.600
 0.800
 1.000
 1.500
 2.000
 -0.050
 -0.100
 -0.200
 -0.400
 -0.600
 -0.800
 -1.000
 -1.500
 -2.000

CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

U.D=0.4=3SNE

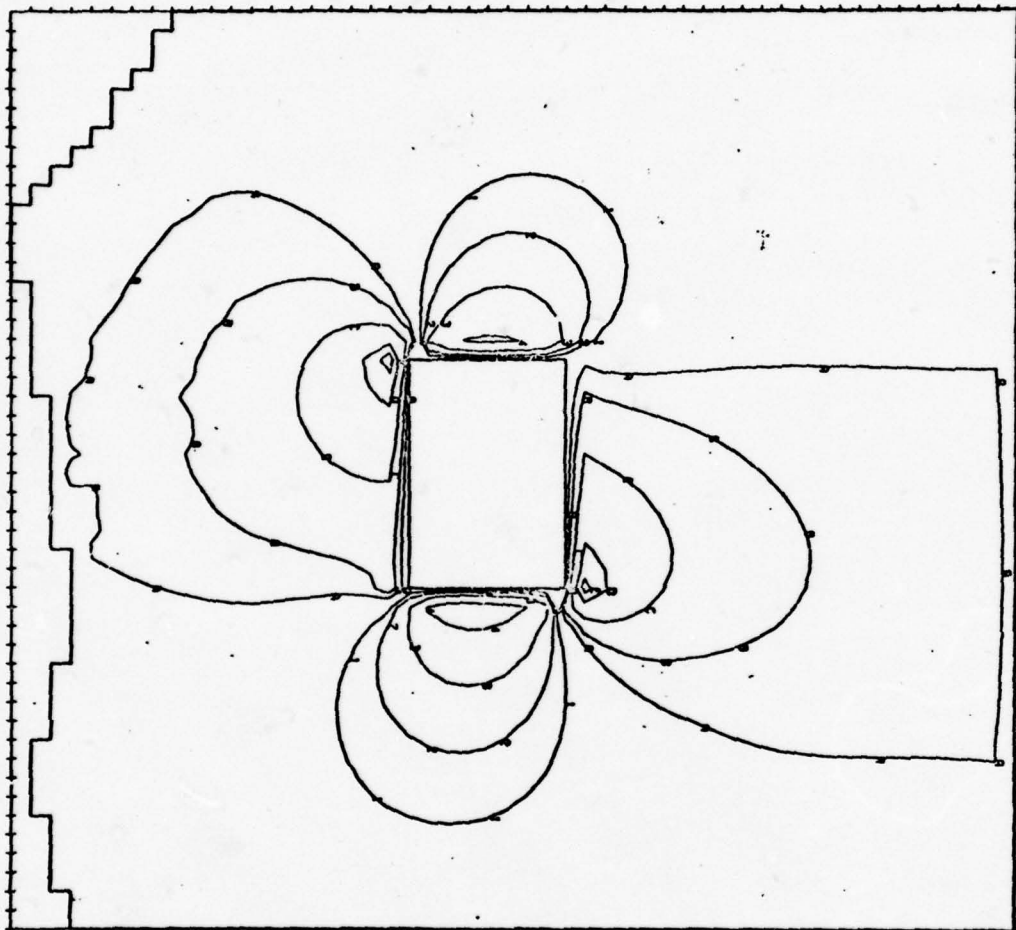
CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE



SYMBOLS	CONTOUR LEVELS
1	0.050
2	0.100
3	0.200
4	0.400
5	0.800
6	1.600
7	2.000
8	-0.050
9	-0.100
A	-0.200
B	-0.400
C	-0.800
D	-1.600
E	-2.000
F	-0.050
G	-0.100
H	-0.200
I	-0.400
J	-0.800
K	-1.600
L	-2.000

V.D=0, H=3SNE

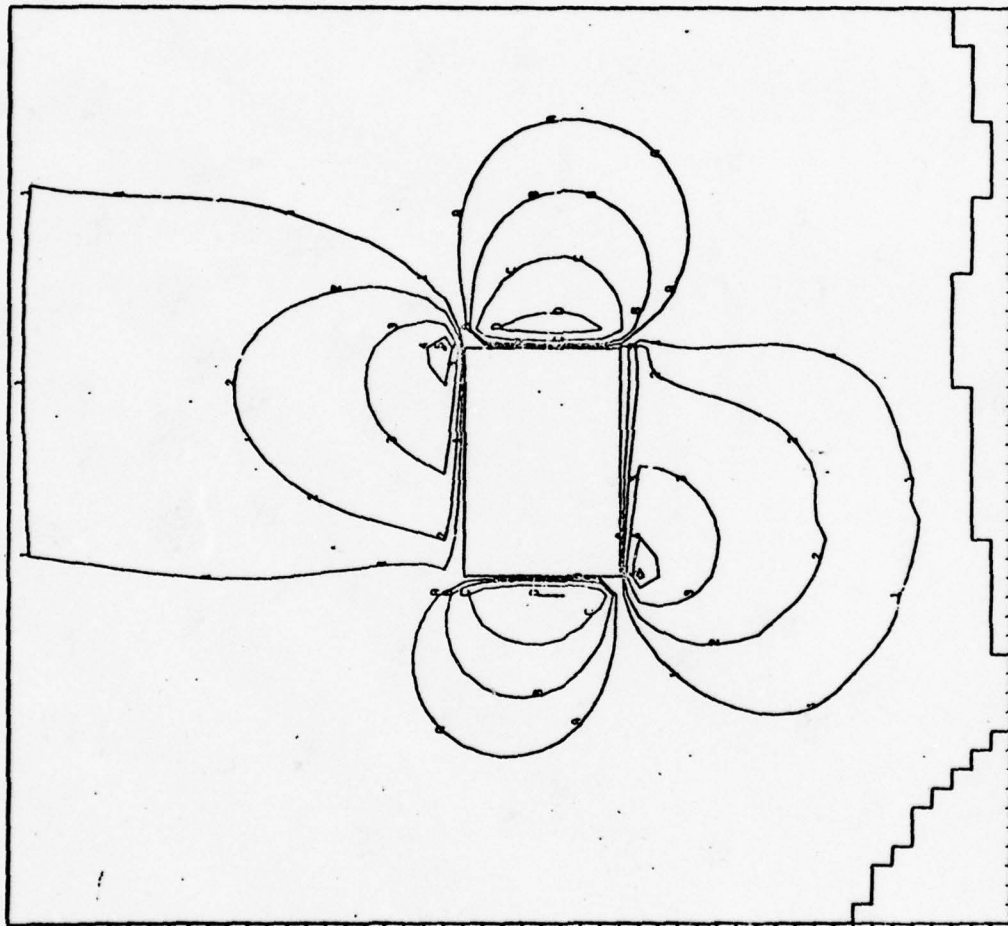
CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE



SYMBOLS	CONTOUR LEVELS
1	0.050
2	0.100
3	0.200
4	0.400
5	0.800
6	1.600
7	3.200
8	-0.050
9	-0.100
A	-0.200
B	-0.400
C	-0.800
D	-1.600
E	-3.200
F	-6.400
G	-12.800

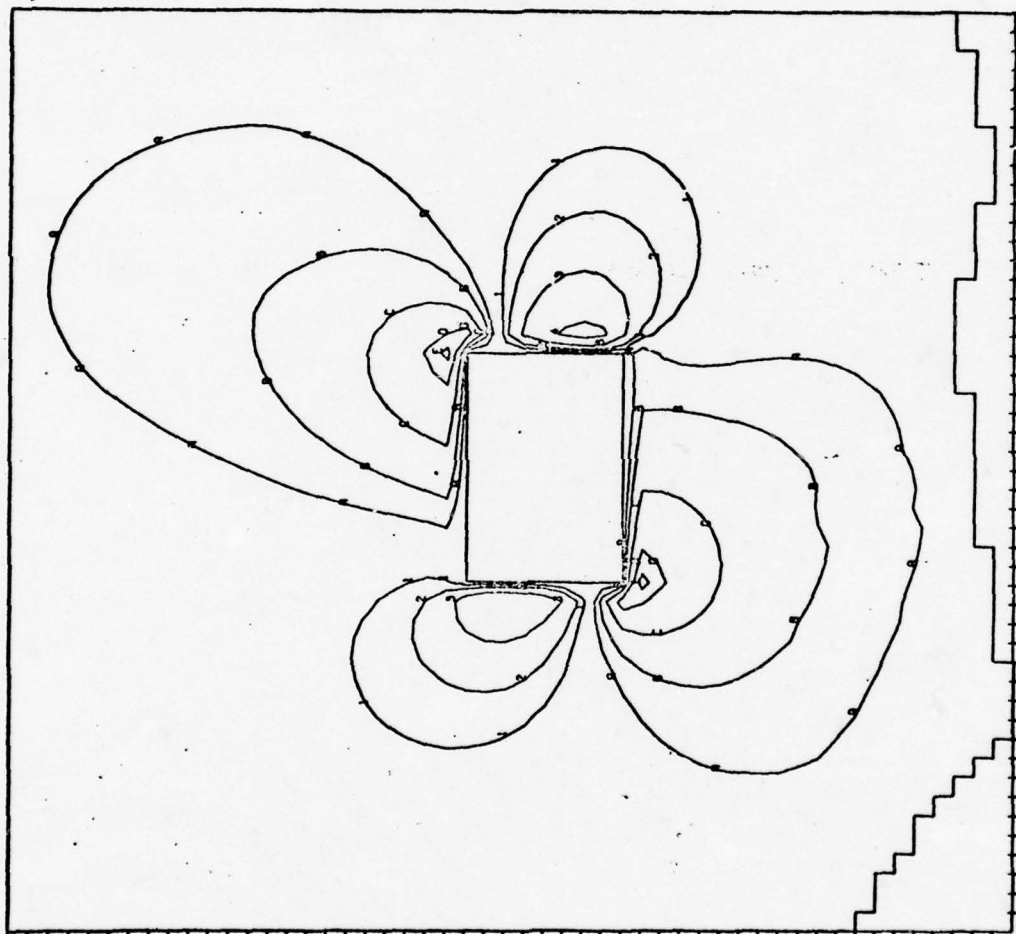
M.D=0.435NE

SYMBOLS
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32



CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

U.D=15.W=35NE

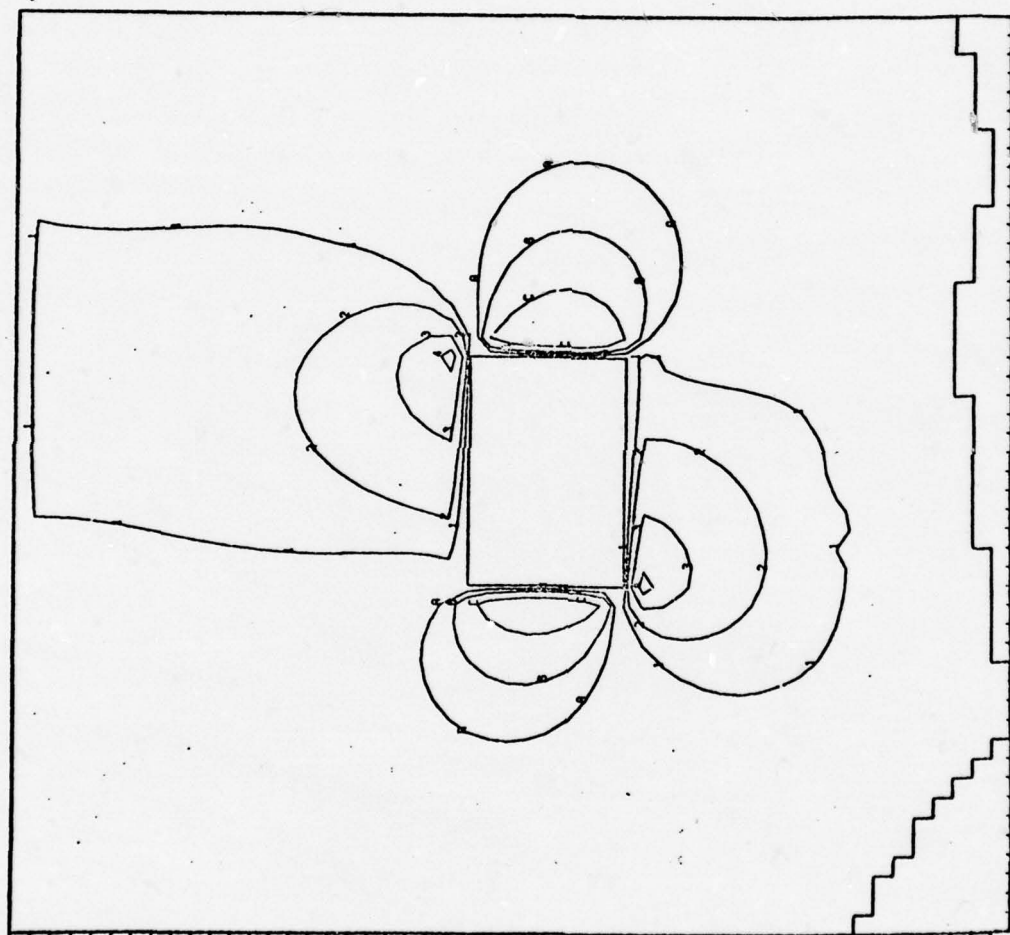


SYMBOLS
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

CONTOUR LEVELS
0.050
0.100
0.200
0.400
0.600
0.800
1.000
1.500
2.000
-0.050
-0.100
-0.200
-0.400
-0.600
-0.800
-1.000
-1.500
-2.000

CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

M.O=15.W=3SNE

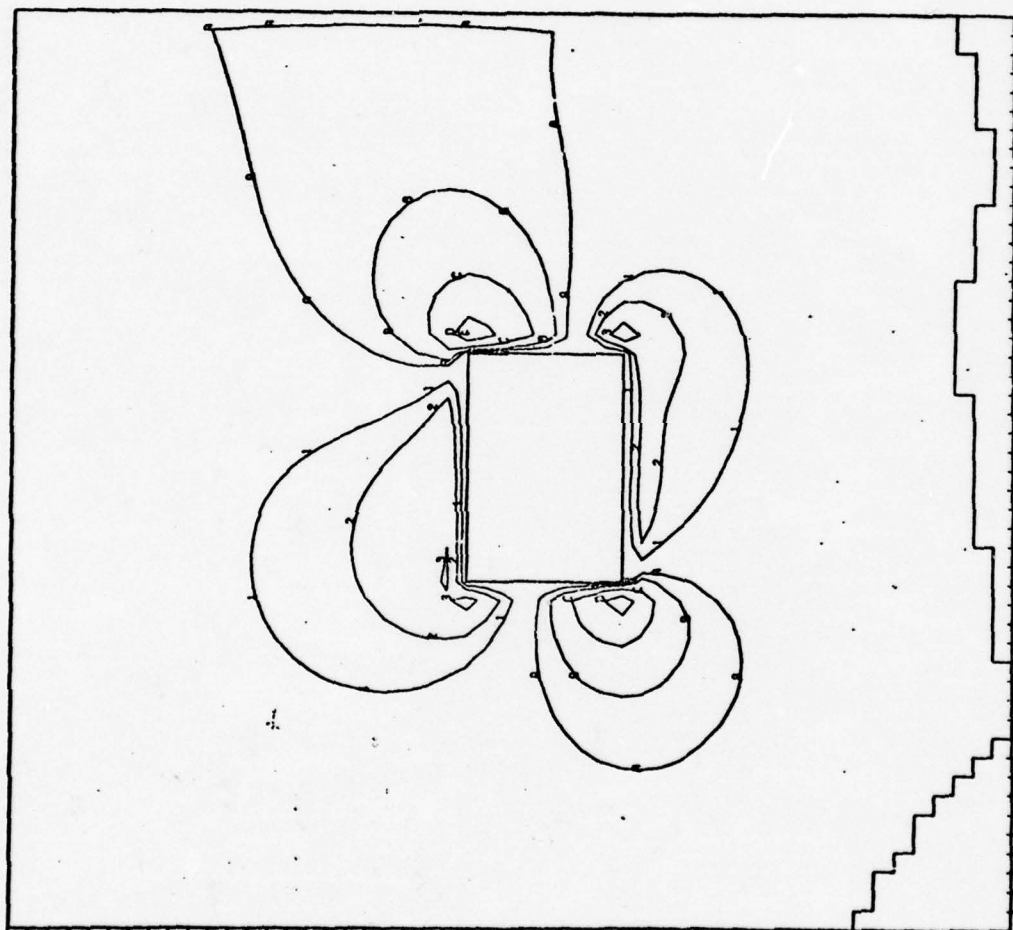


SYMBOLS
1 2 3 4 5 6 7 8 9 10 11

CONTOUR LEVELS
0.050
0.100
0.200
0.400
0.600
0.800
1.000
1.500
2.000
-0.050
-0.100
-0.200
-0.400
-0.600
-0.800
-1.000
-1.500
-2.000

CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

U.S. AIR FORCE

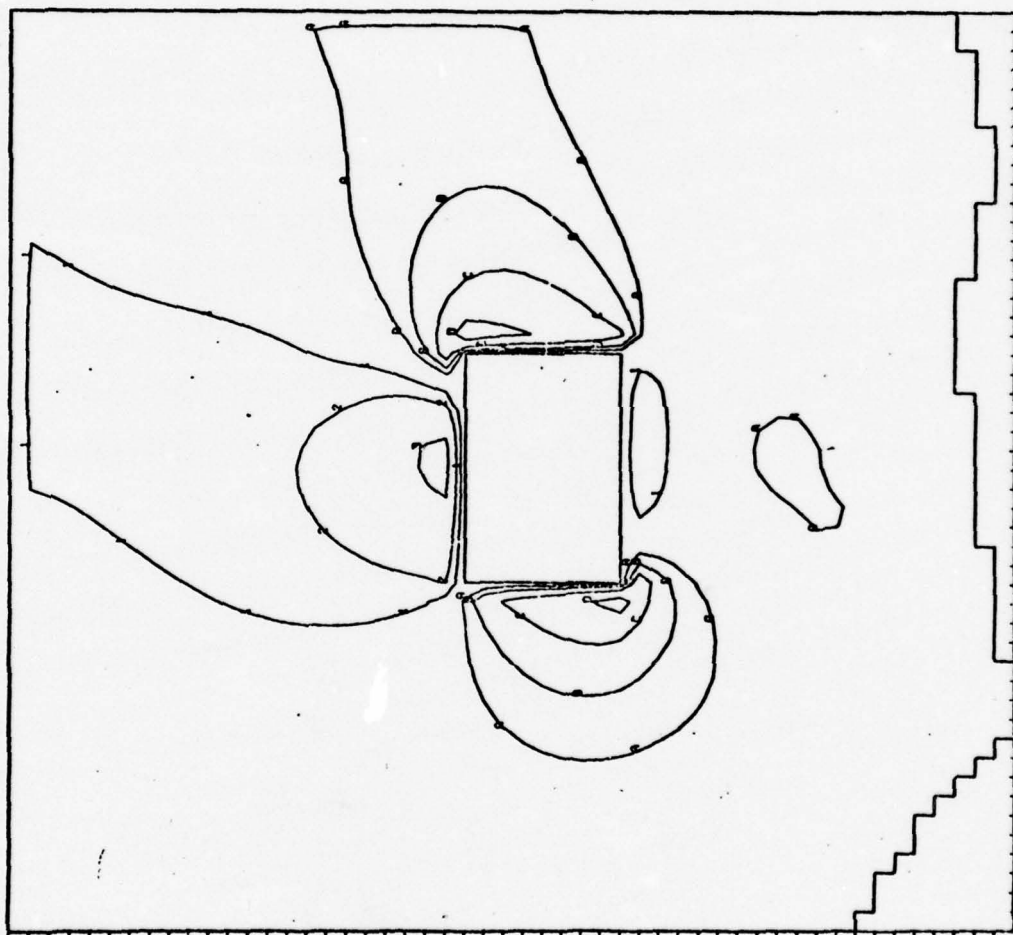


SYMBOLS
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

CONTOUR LEVELS
 0.050
 0.100
 0.200
 0.400
 0.600
 0.800
 1.000
 1.500
 2.000
 -0.050
 -0.100
 -0.200
 -0.400
 -0.600
 -0.800
 -1.000
 -1.500
 -2.000

V.D=30.H-35NE

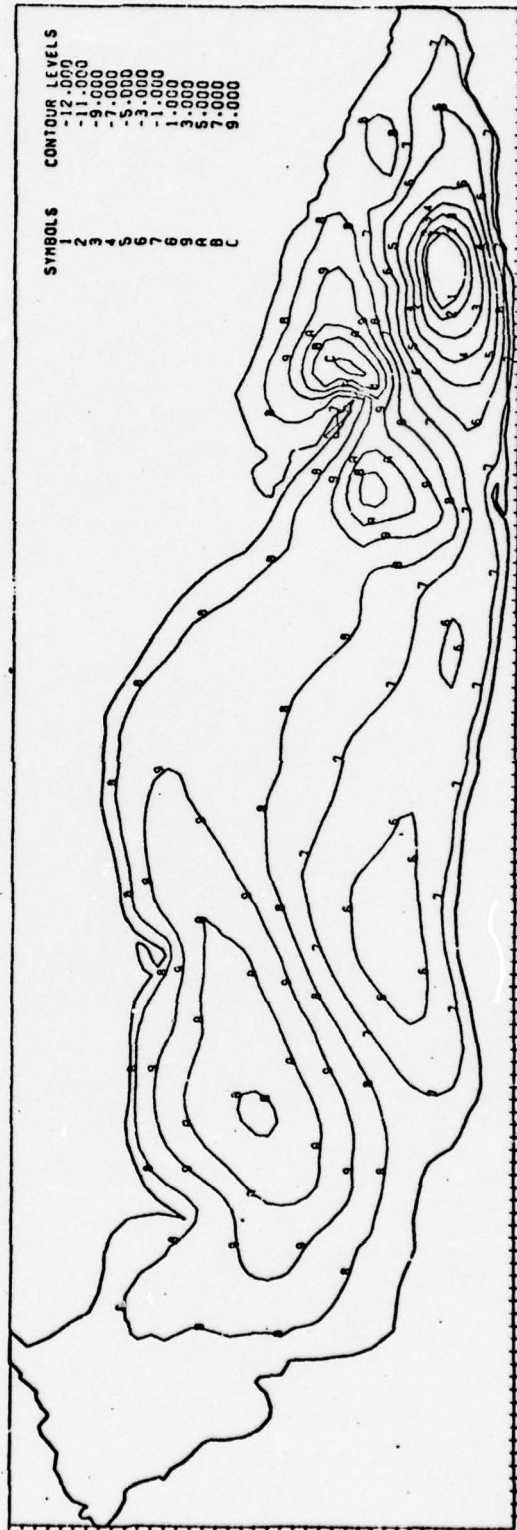
CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

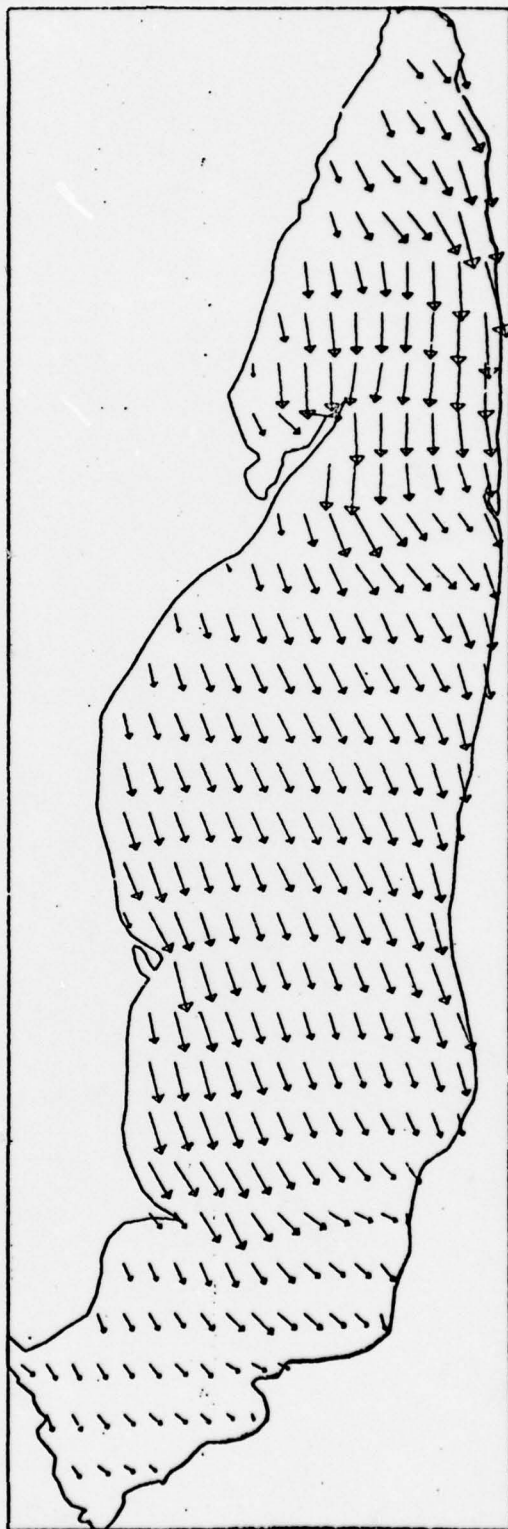


SYMBOLS
 0.050
 0.100
 0.150
 0.200
 0.250
 0.300
 0.350
 0.400
 0.450
 0.500
 0.550
 0.600
 0.650
 0.700
 0.750
 0.800
 0.850
 0.900
 0.950
 1.000
 1.050
 1.100
 1.150
 1.200
 1.250
 1.300
 1.350
 1.400
 1.450
 1.500
 1.550
 1.600
 1.650
 1.700
 1.750
 1.800
 1.850
 1.900
 1.950
 2.000

M.O-30.H=35NE

CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE



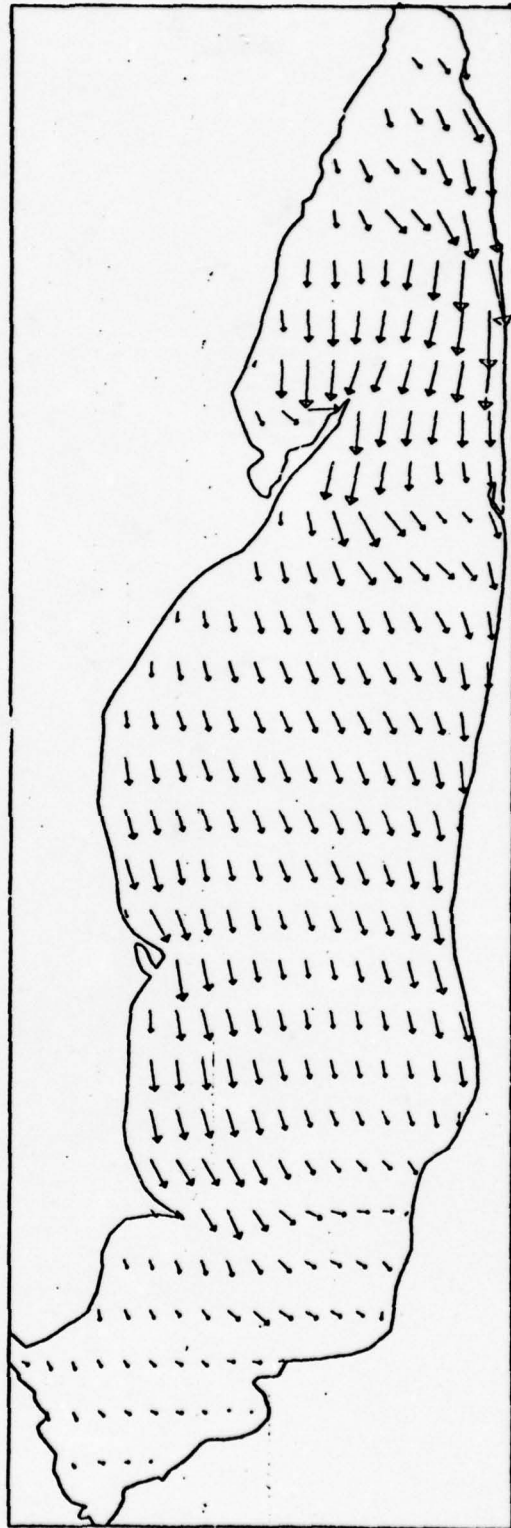


35 MPH, NNE

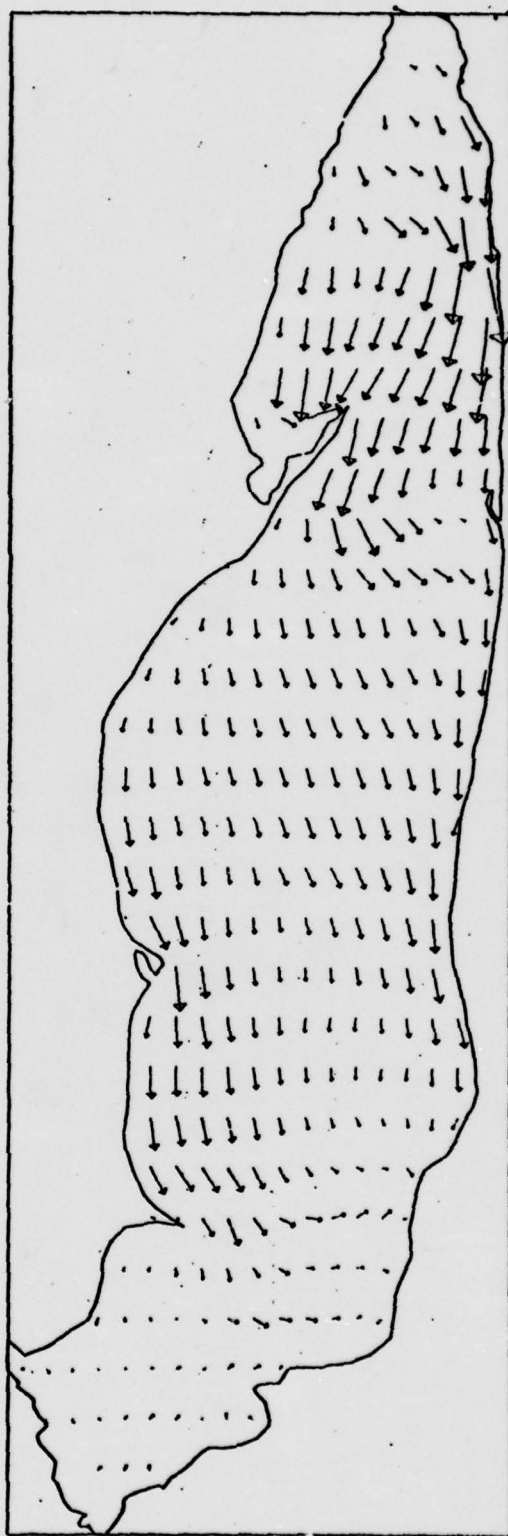
1.0

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 0.0 FT

VECTOR LENGTH = 1 FOOT/SEC = —



HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 5.0 FT
VECTOR LENGTH = 1 FOOT/SEC = 1.0
35 MPH.NNE

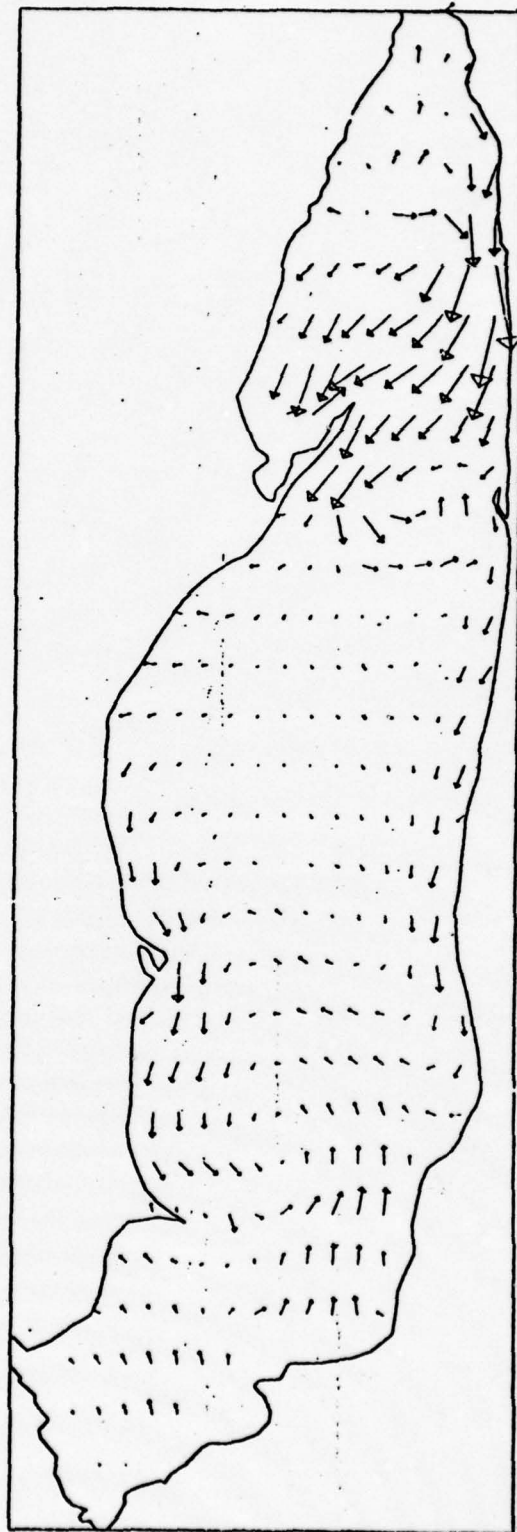


HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 10.0 FT

VECTOR LENGTH = 1. FOOT/SEC = —

35 MPH.MHE

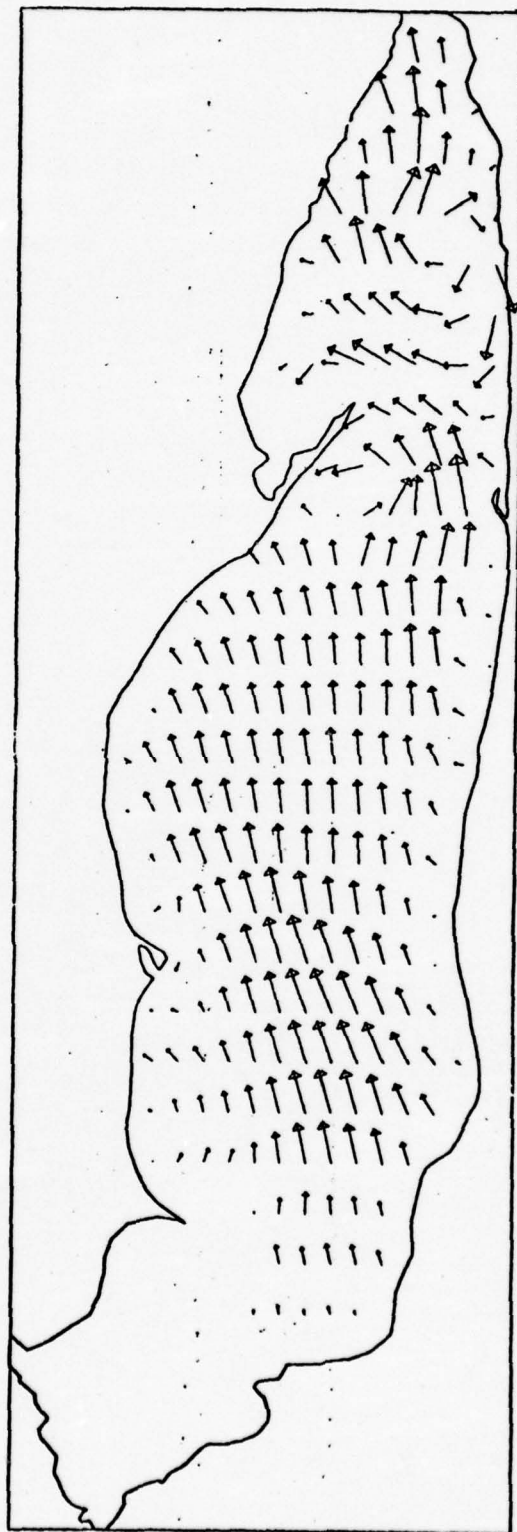
1.0



35 MPH NNE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 20.0 FT

VECTOR LENGTH = 1 FOOT/SEC = 1.0

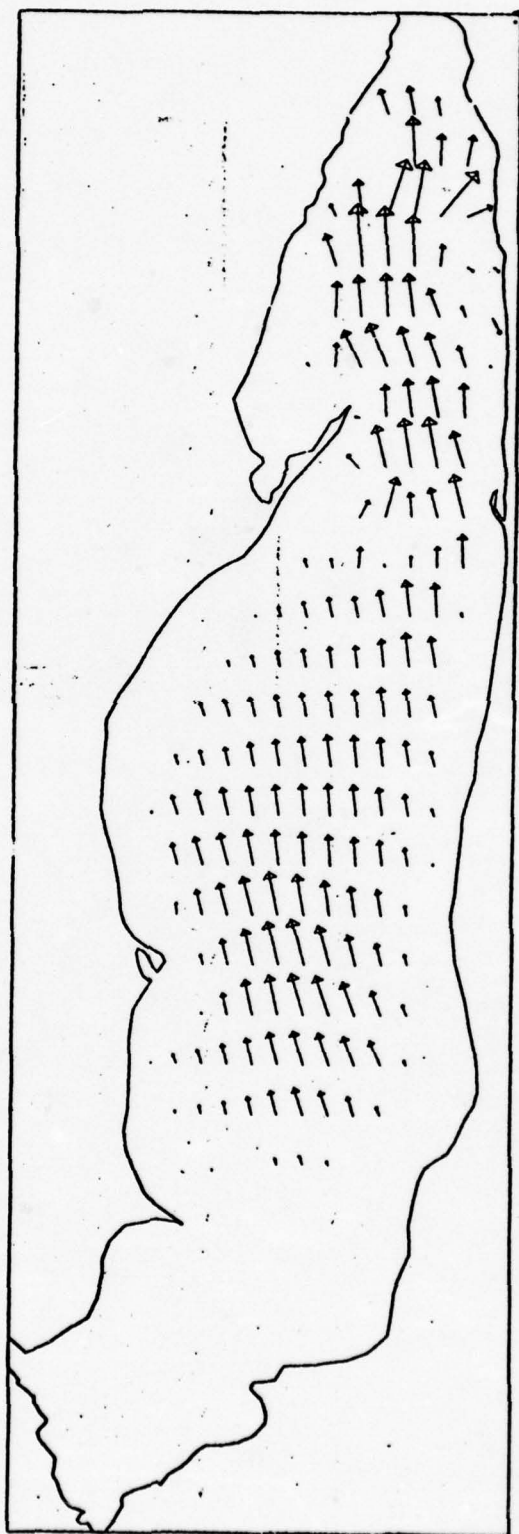


35 MPH, NNE

40.0 FT

1.0

VECTOR LENGTH = 1 FOOT/SEC =

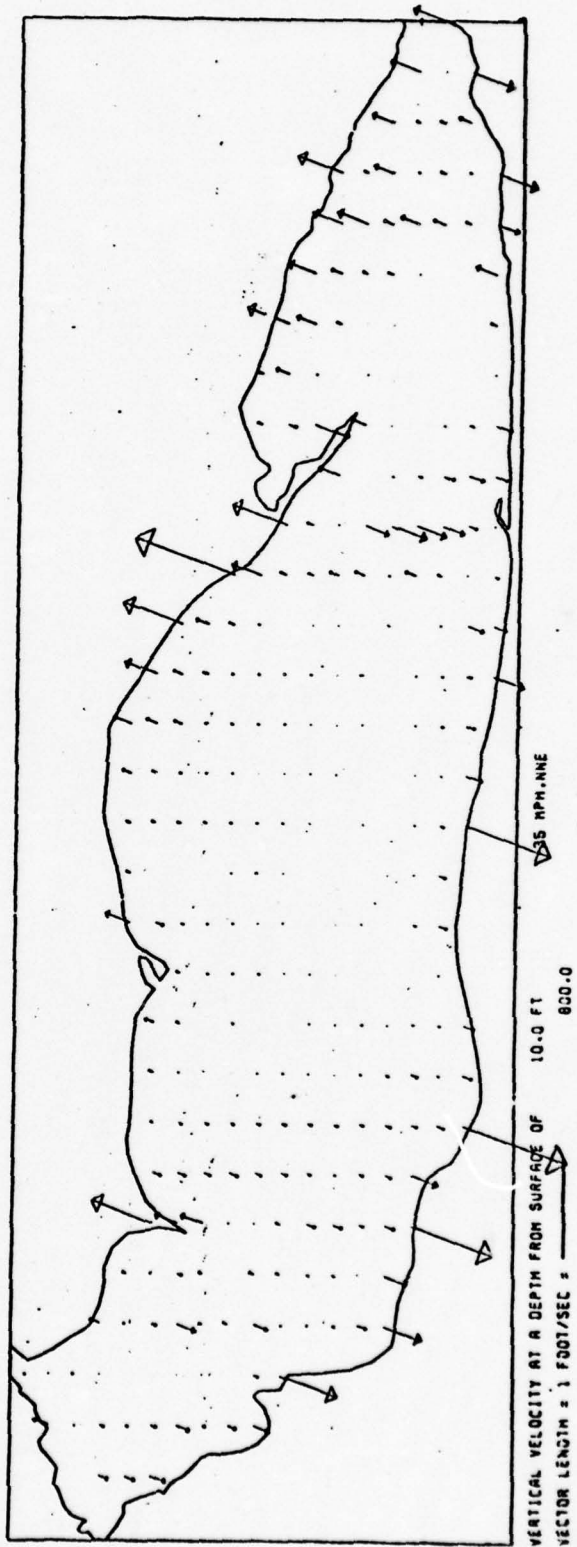


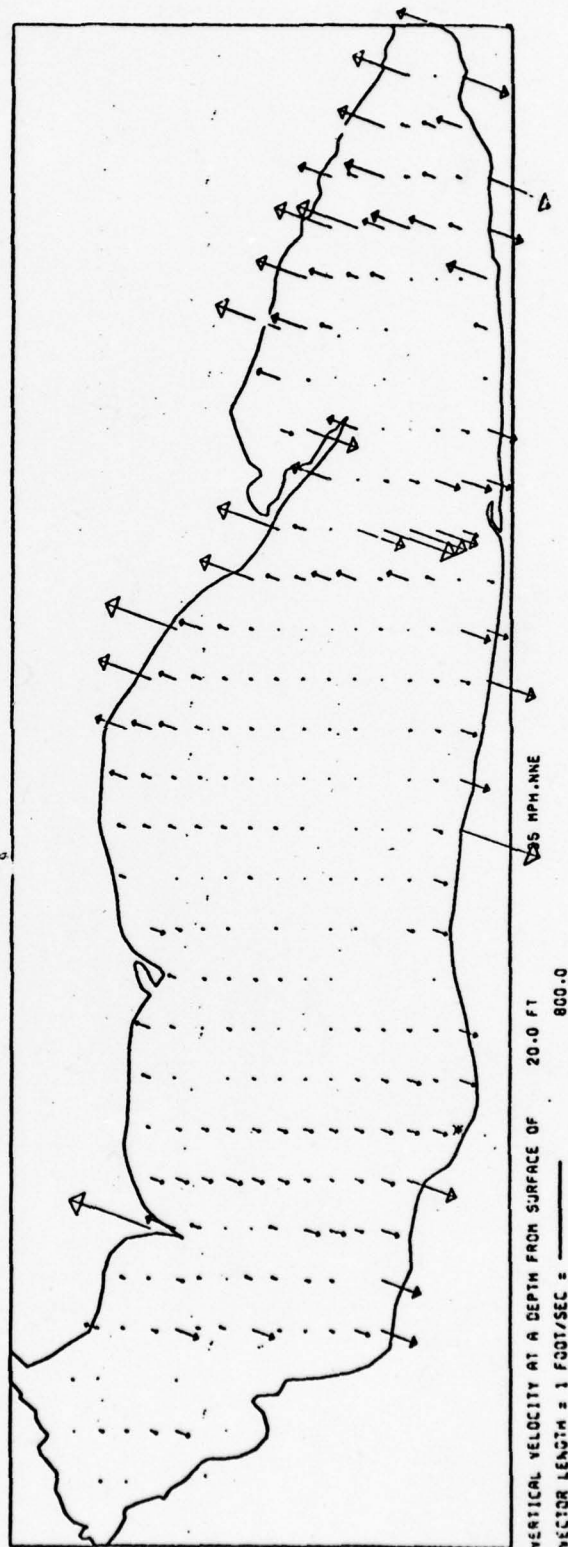
35 MPH·NNE

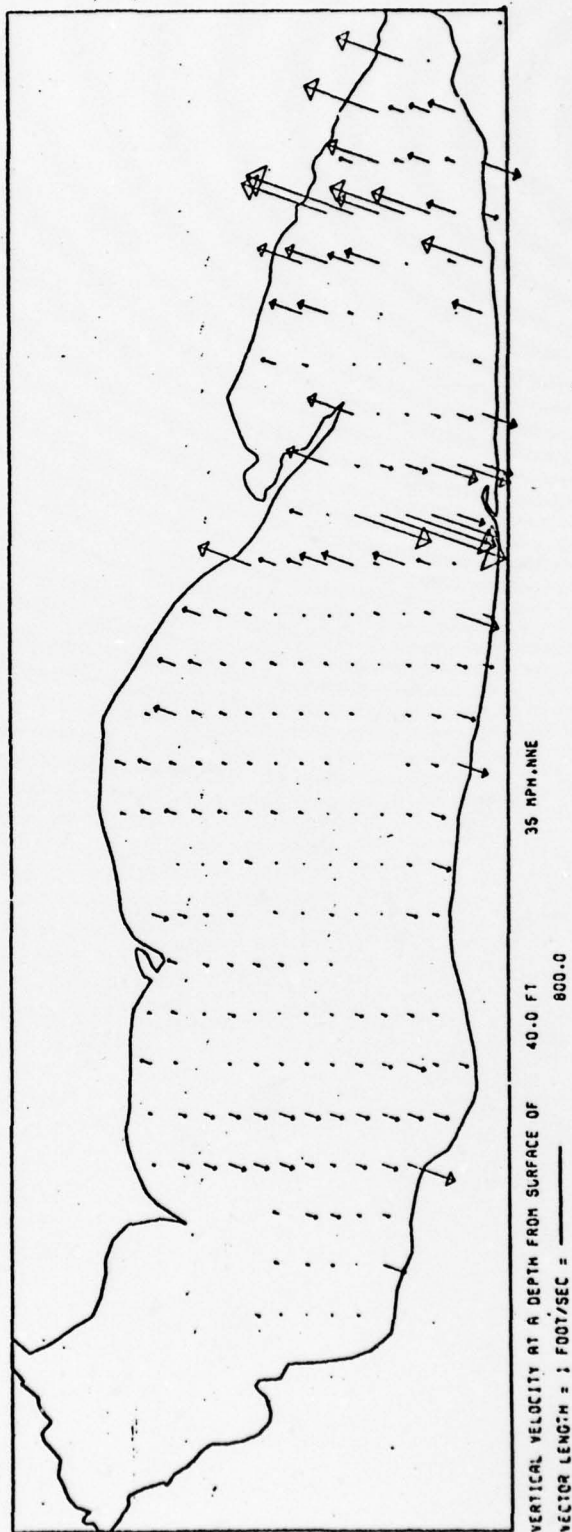
1.0

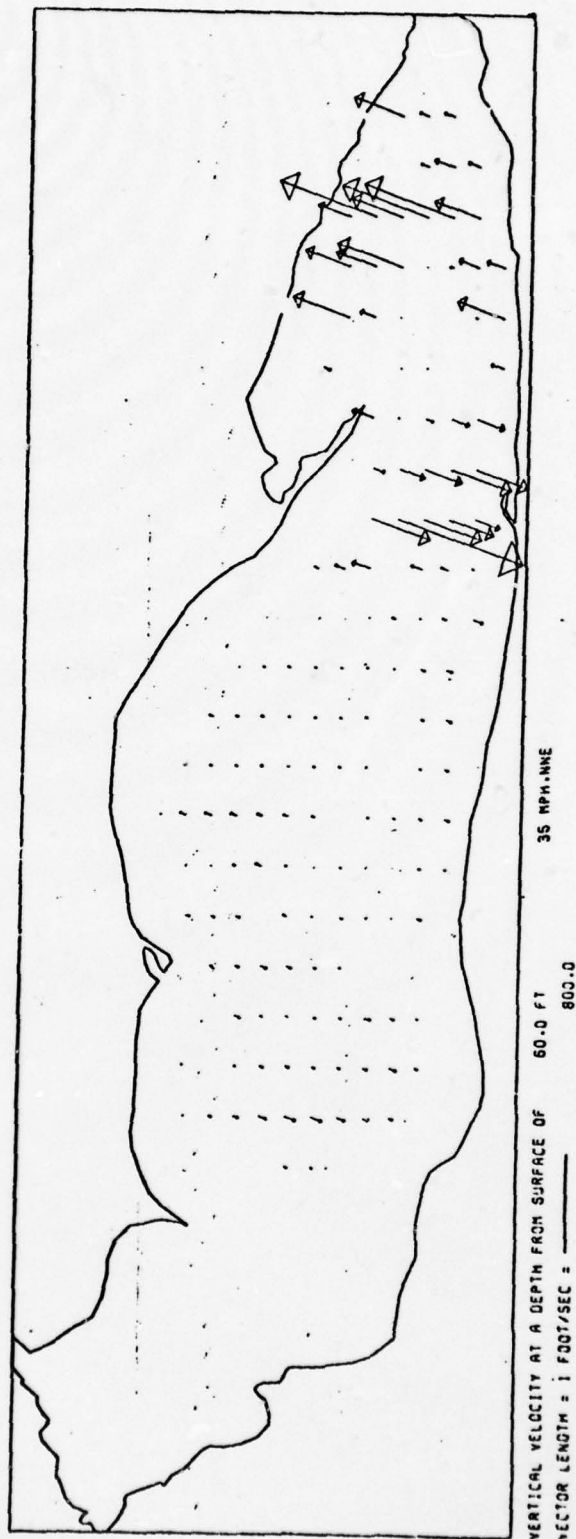
HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 60.0 FT

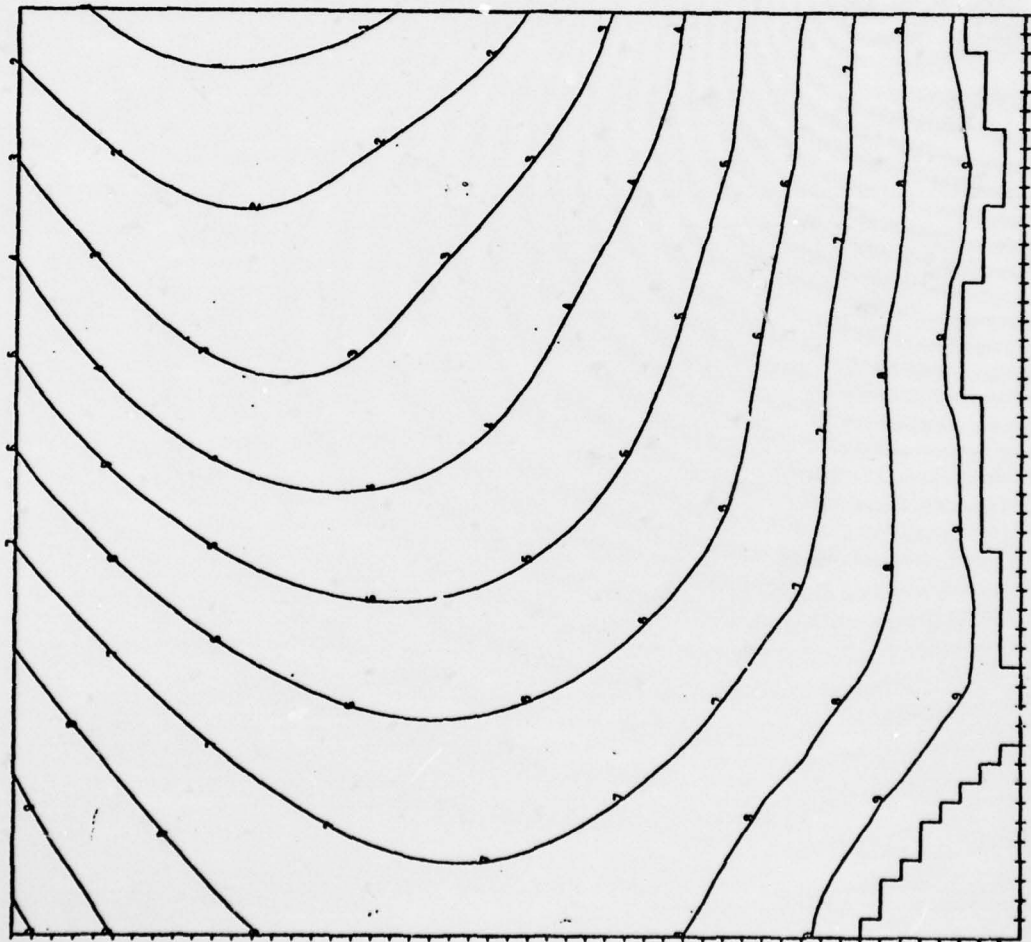
VECTOR LENGTH = 1 FOOT/SEC = —









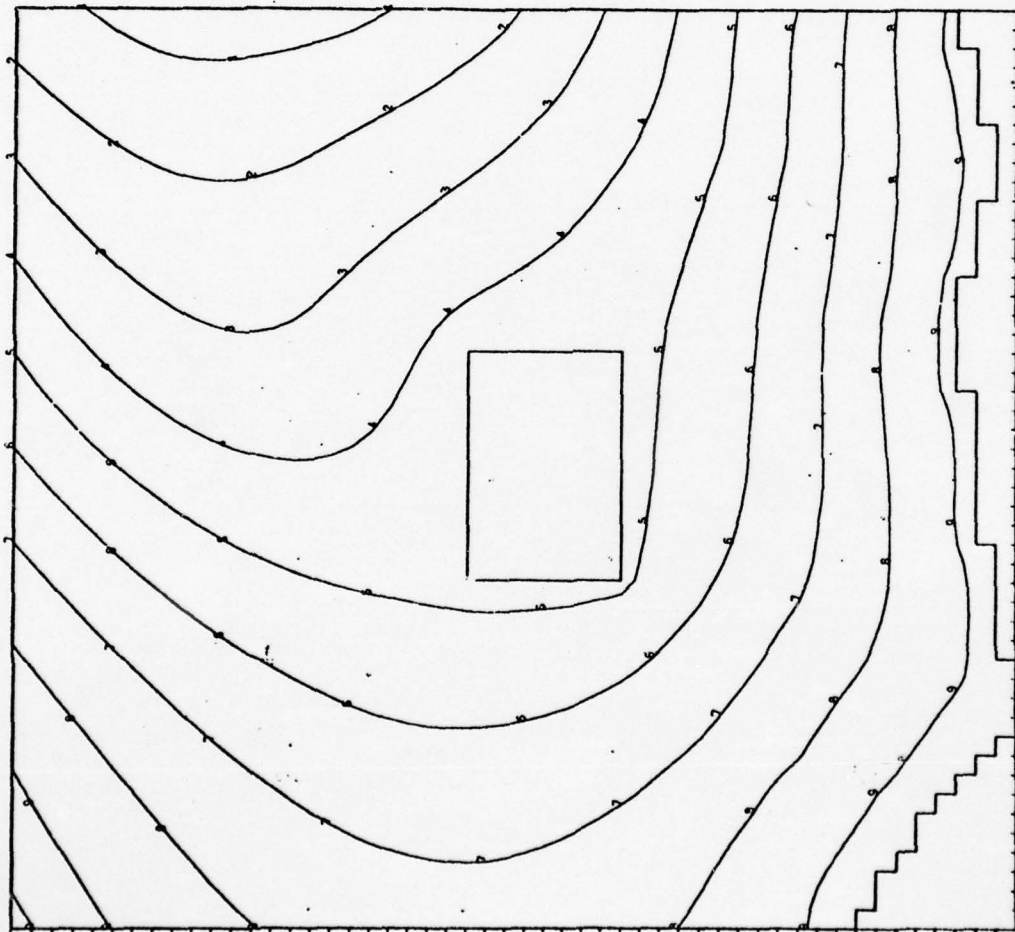


SYMBOLS
 1
 2
 3
 4
 5
 6
 7
 8
 9
 0

CONTOUR LEVELS
 -2.500
 -2.200
 -1.900
 -1.600
 -1.300
 -1.000
 -0.700
 -0.400
 -0.100
 0.100

CONTOURS OF STREAM FUNCTION FOR LAKE ERIE -- NEARSHORE

WR=35MPH.NNE

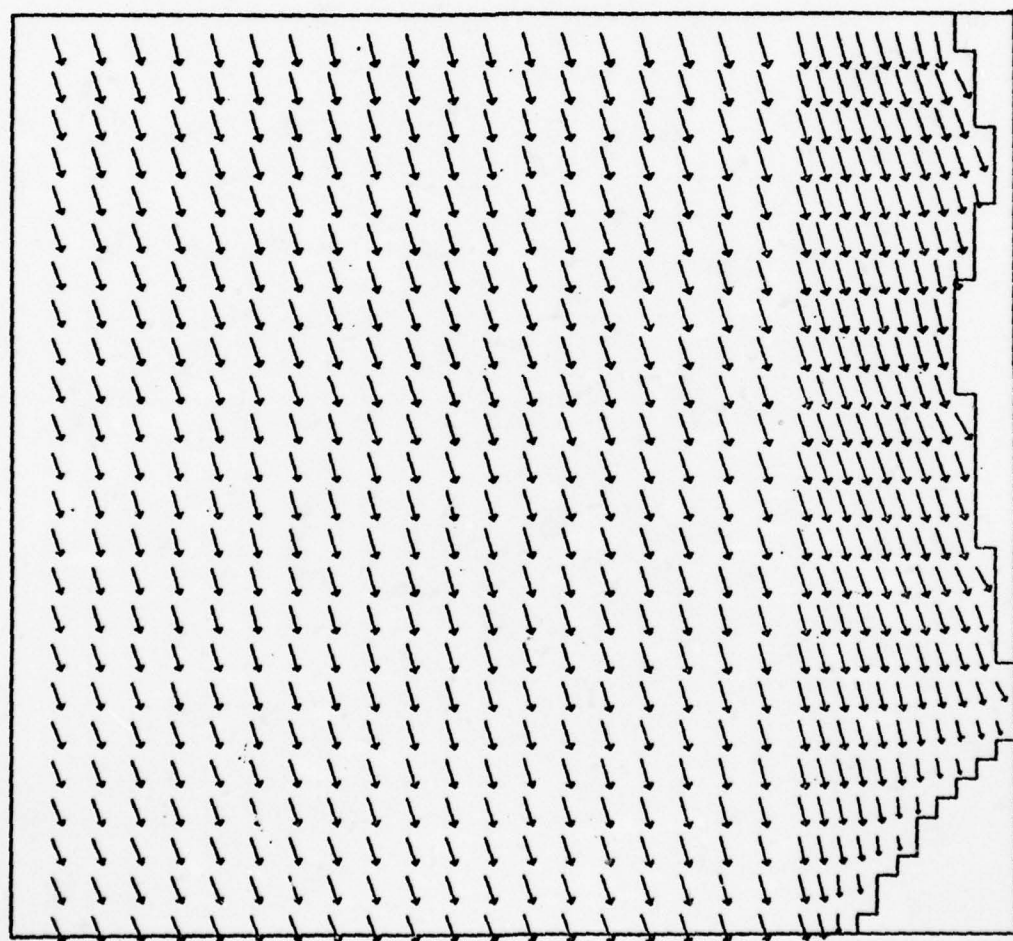


SYMBOLS
1
2
3
4
5
6
7
8
9
10

CONTOUR LEVELS
-2.500
-2.200
-1.900
-1.600
-1.300
-1.000
-0.700
-0.400
-0.100
0.100

CONTOURS OF STREAM FUNCTION FOR LAKE ERIE -- NEARSHORE

WR=35MPH.NNE

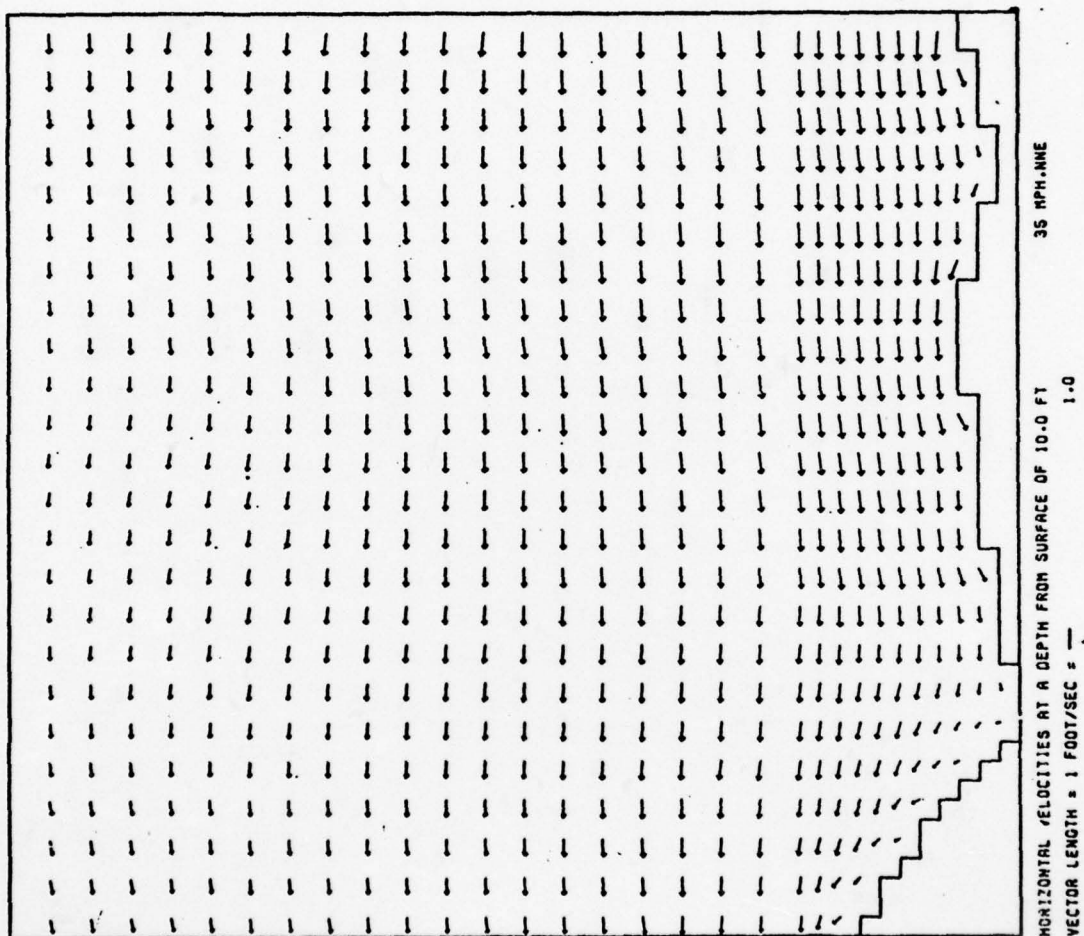


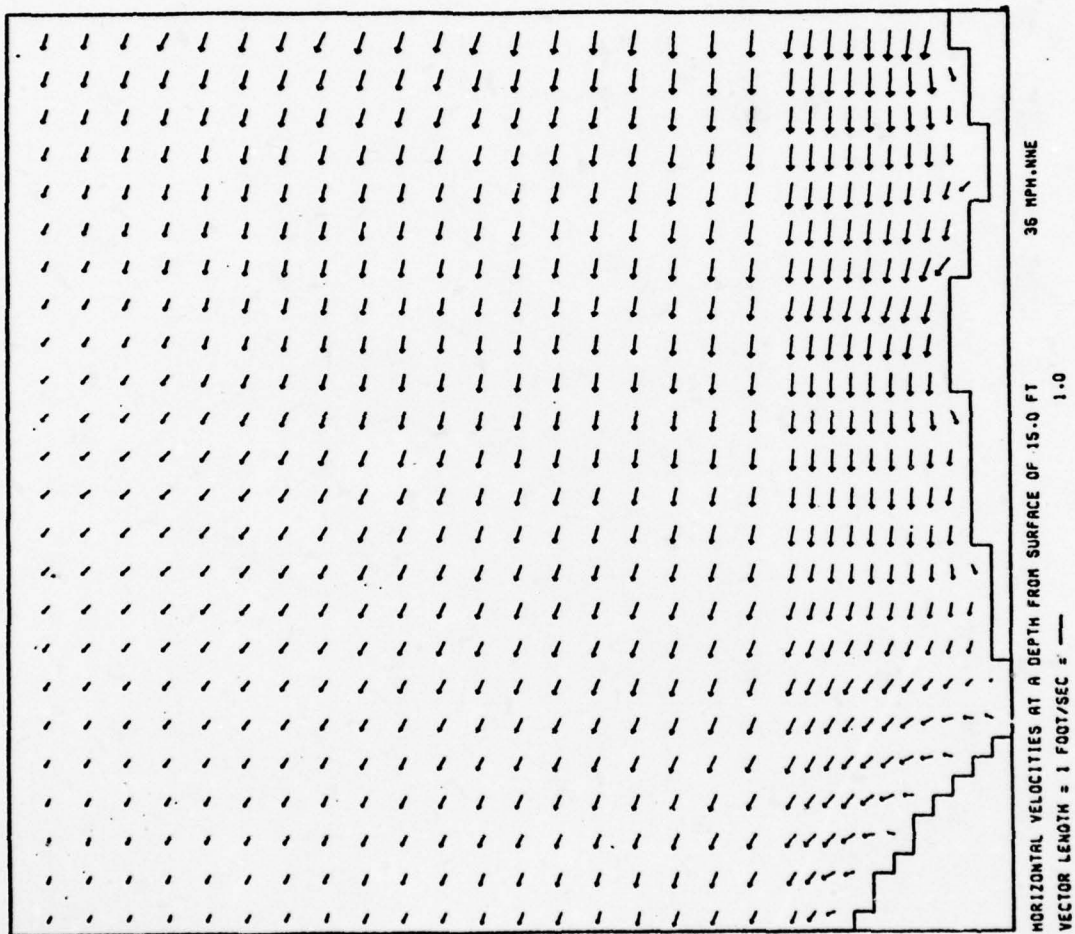
35 MPH,ANE

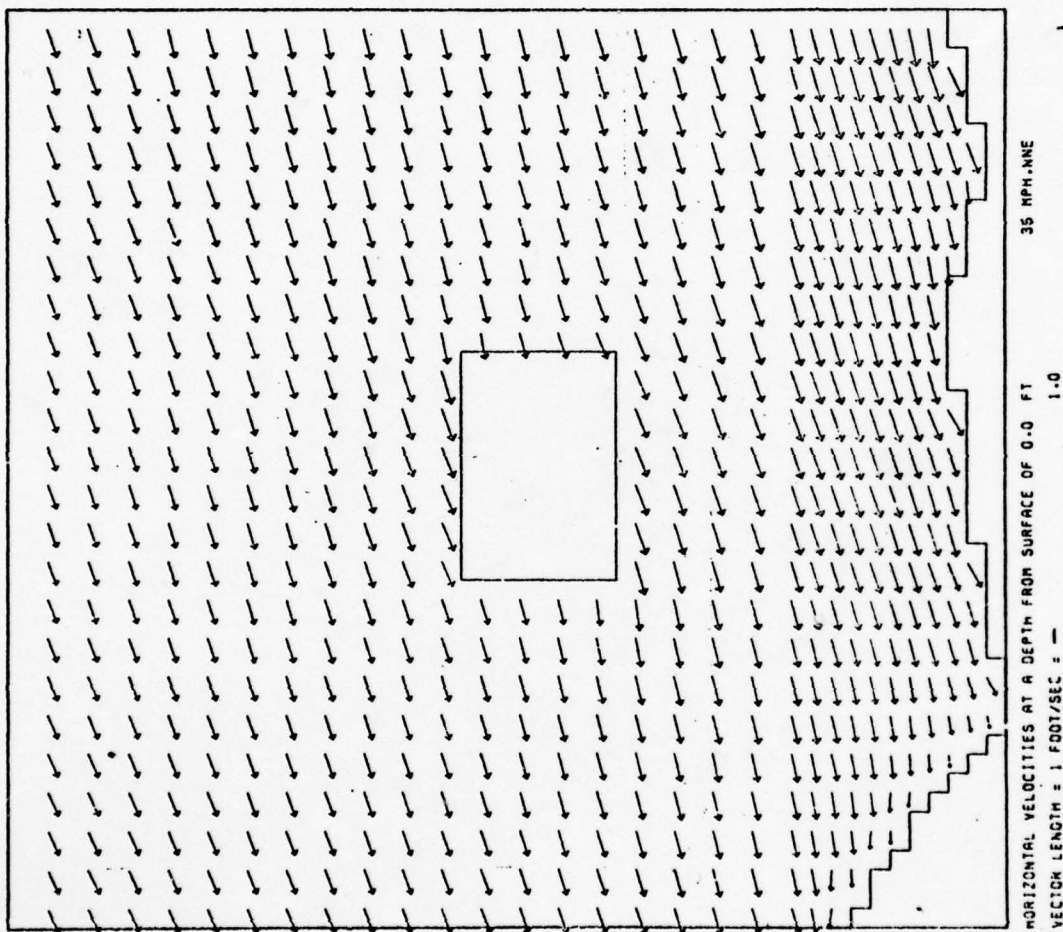
HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 0.0 FT

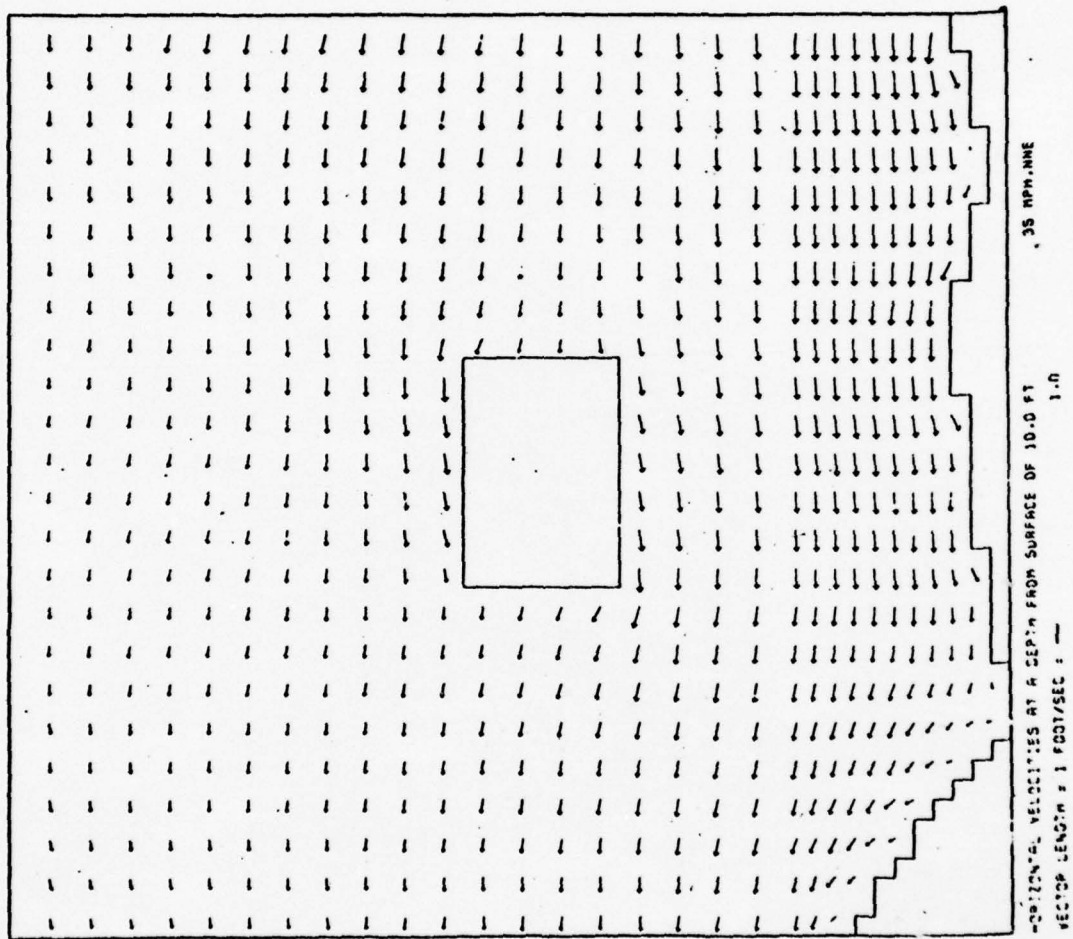
1.0

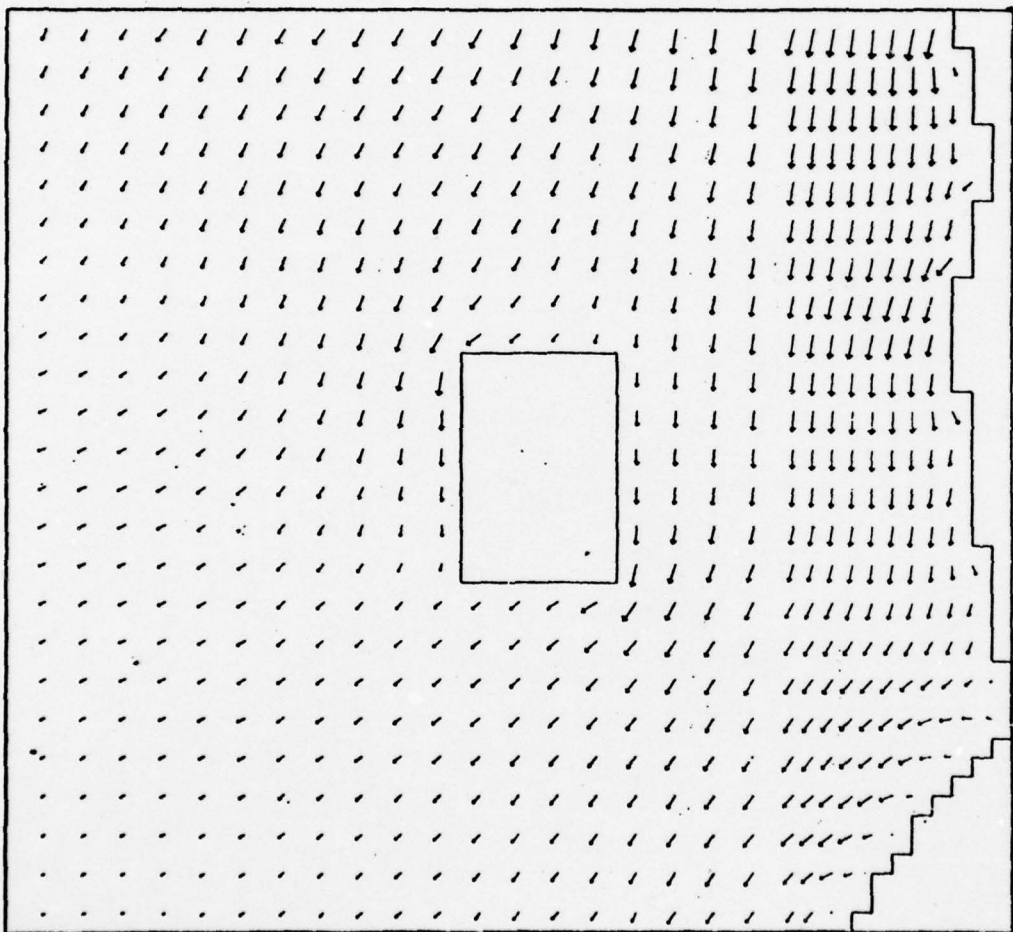
VECTOR LENGTH = 1 FOOT/SEC = —







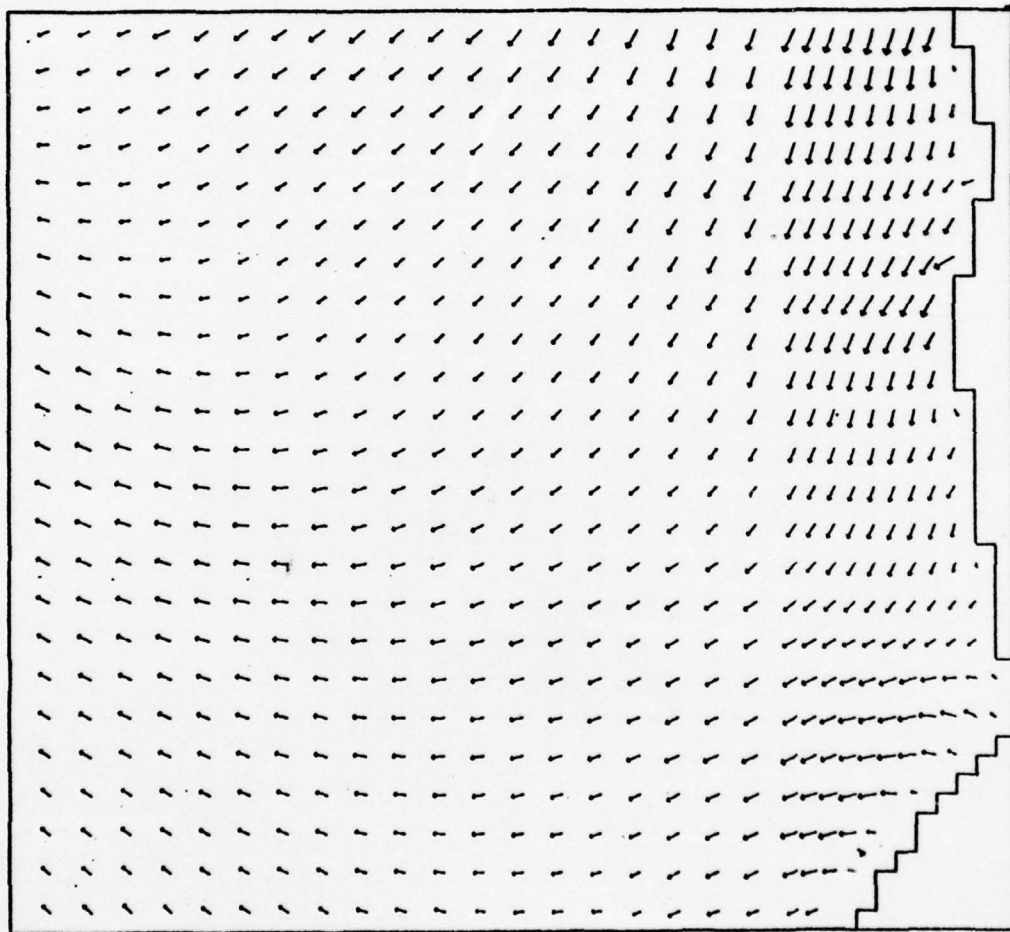




35 MPH-NNE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 15.0 FT

VECTOR LENGTH = 1 FOOT/SEC = ——— 1.0

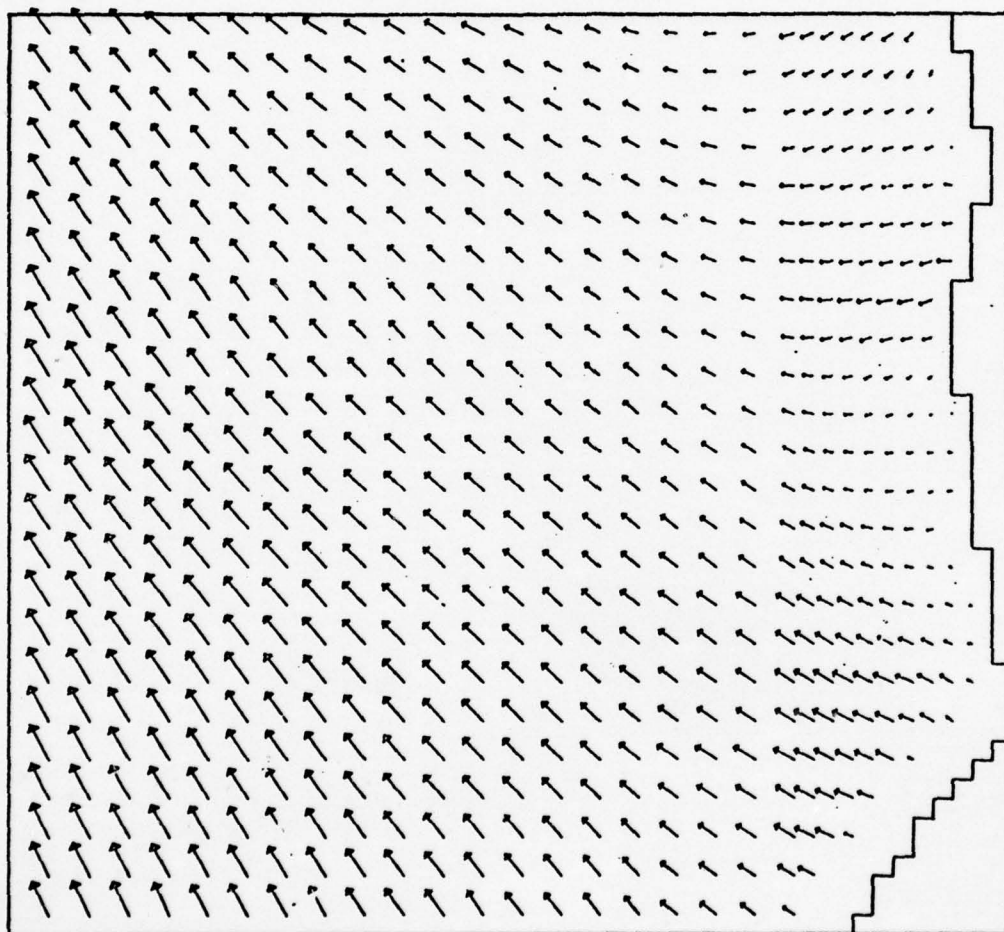


35 MPH-NNE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 20.0 FT

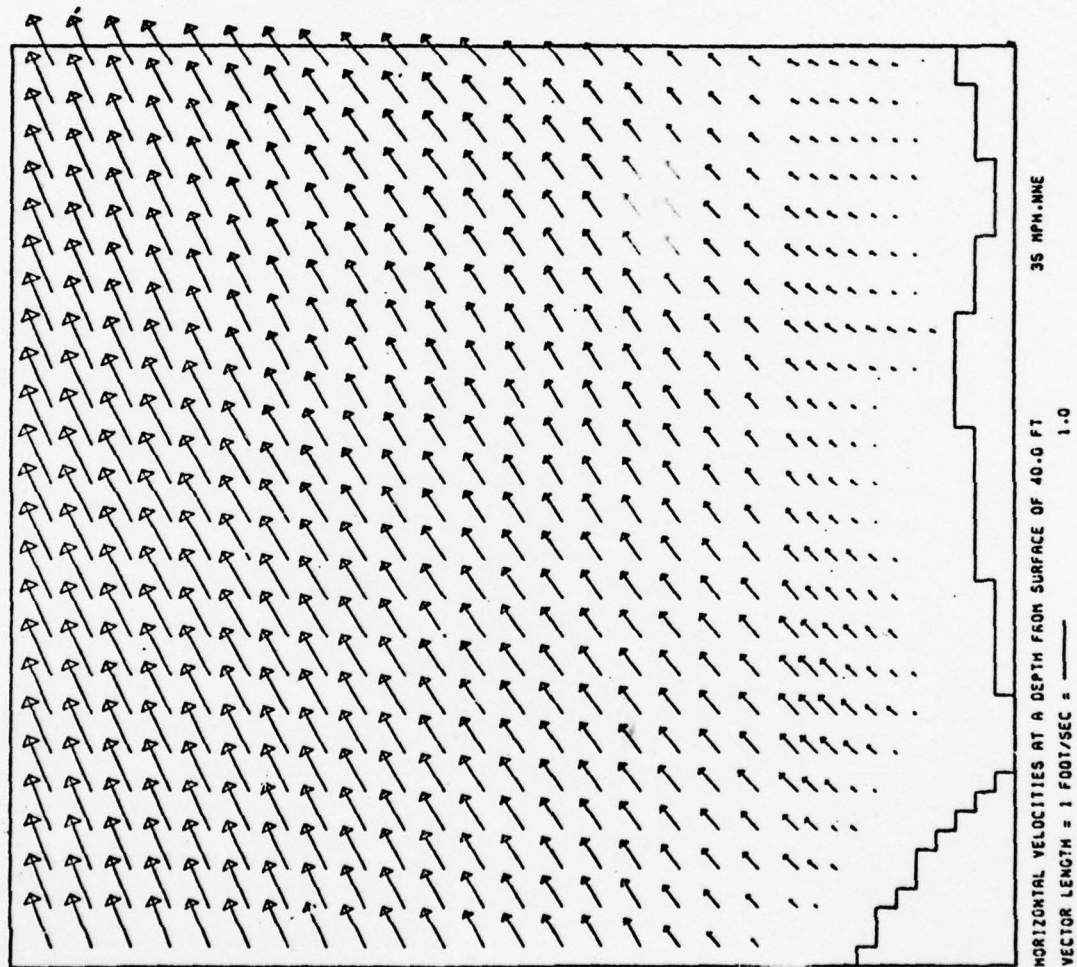
1.0

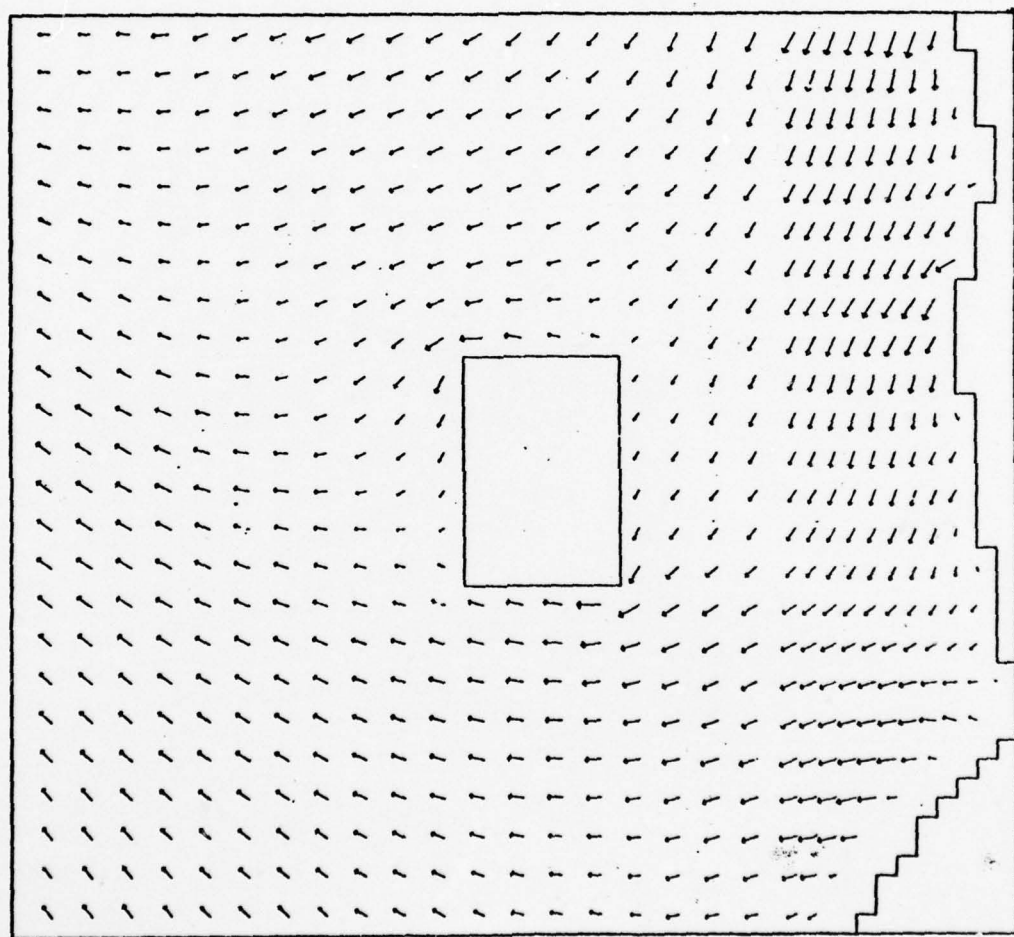
VECTOR LENGTH = 1 FOOT/SEC = —



35 MPH.NNE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 30.0 FT
VECTOR LENGTH = 1 FOOT/SEC = 1.0

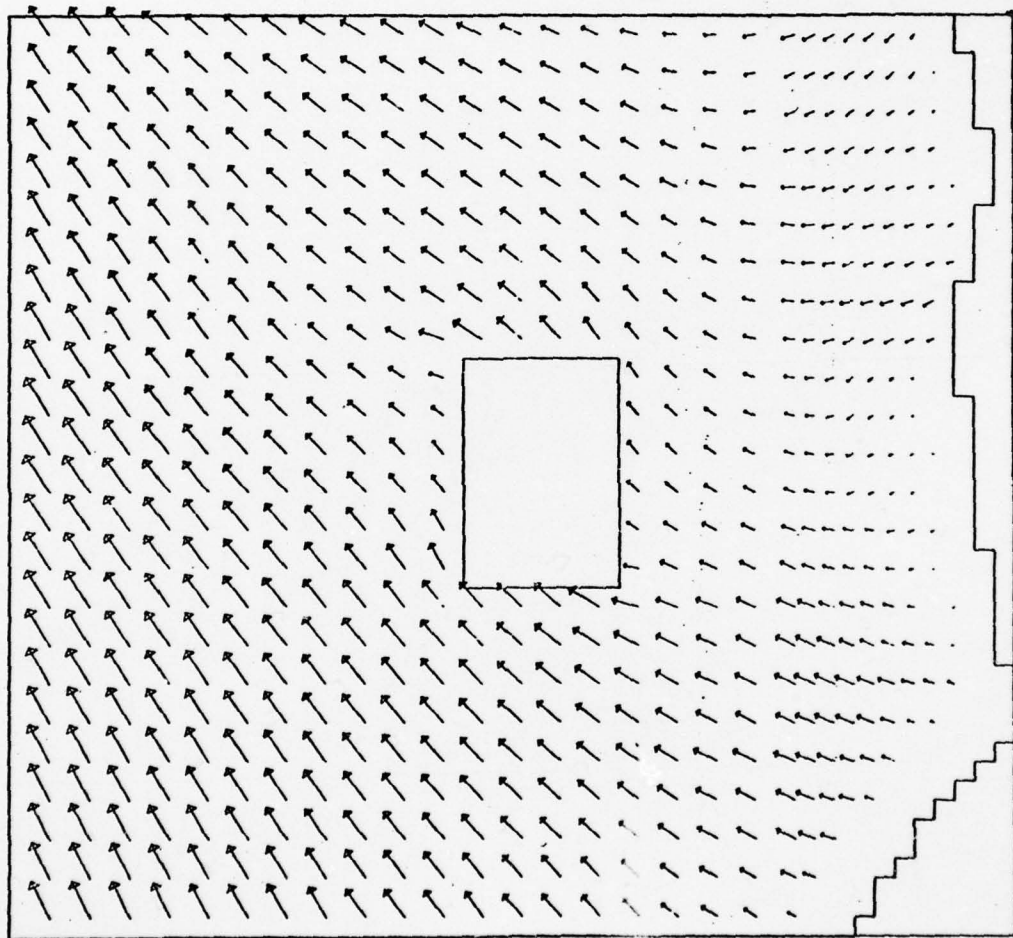




35 MPH.NNE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 20.0 FT

VECTOR LENGTH = 1 FOOT/SEC = 1.0



35 MPH·NNE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 30.0 FT

VECTOR LENGTH = 1 FOOT/SEC = 1.0

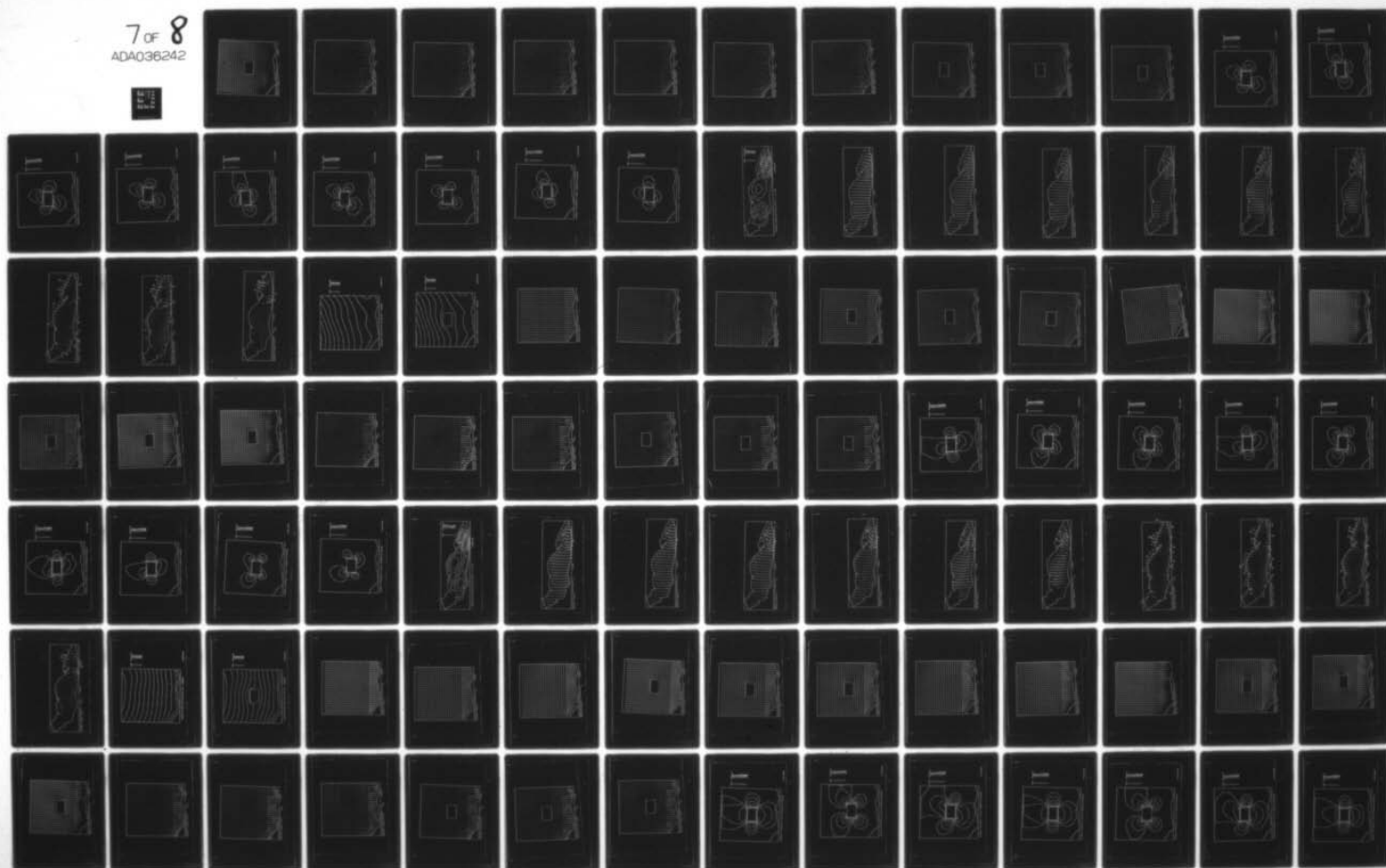
AD-A036 242

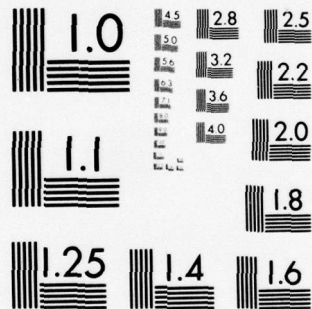
ARMY ENGINEER WATERWAYS EXPERIMENT STATION, VICKSBURG MISS F/G 1/5
LAKE ERIE INTERNATIONAL JETPORT MODEL FEASIBILITY INVESTIGATION--ETC(U)
FEB 76 D L DURHAM, H L BUTLER
WES-MP-H-76-3-7

UNCLASSIFIED

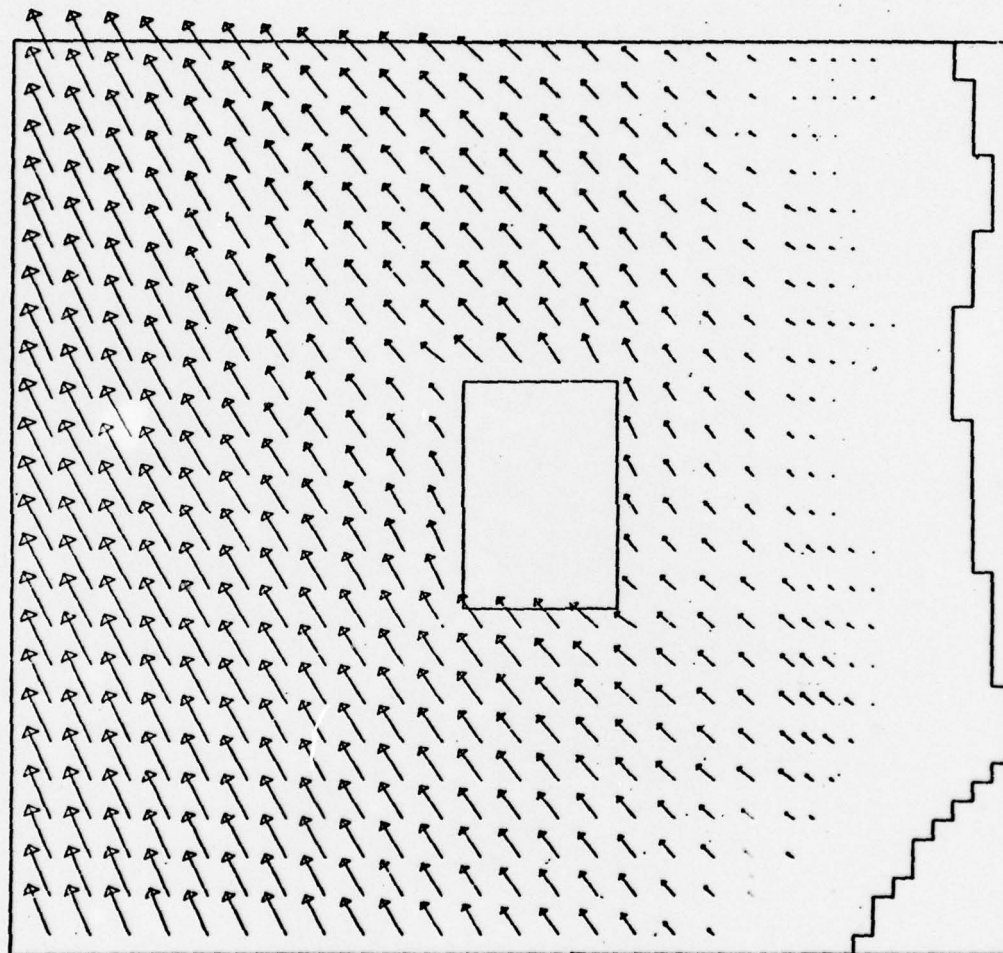
NL

7 OF 8
ADA036242





MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

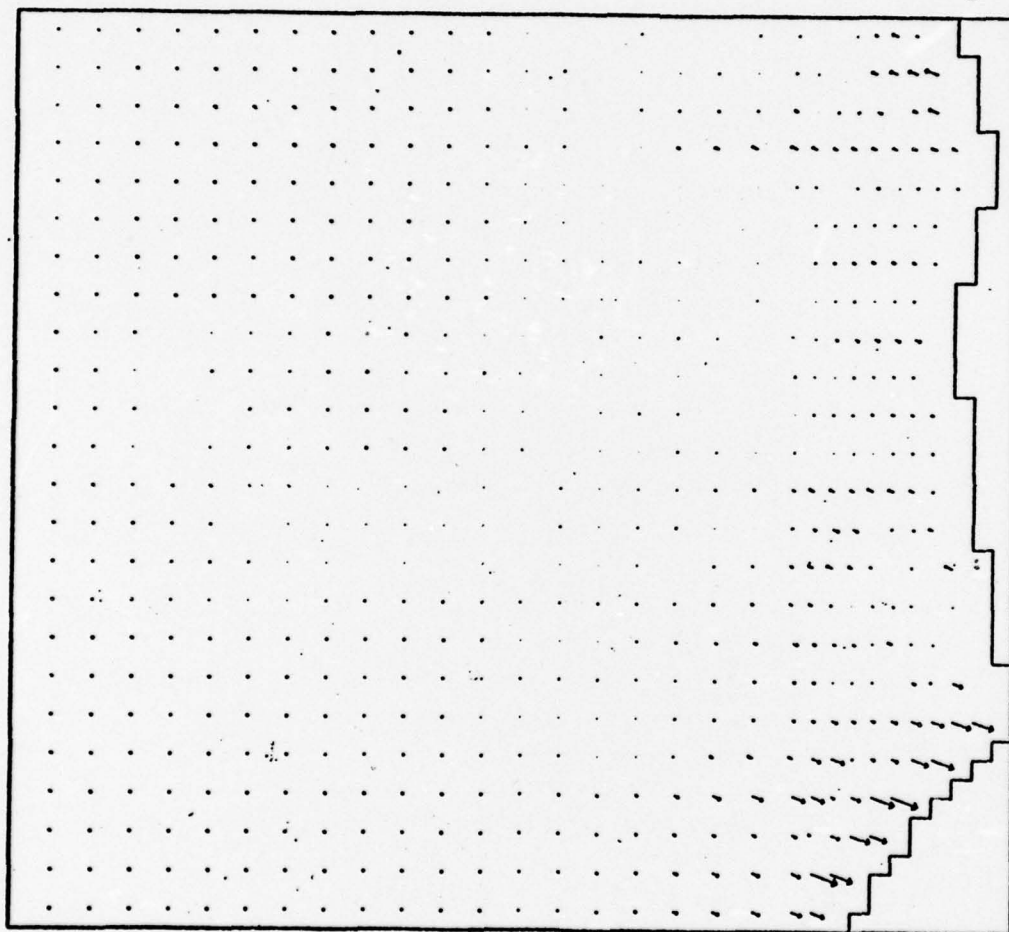


35 MPH-NNE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 40.0 FT

1.0

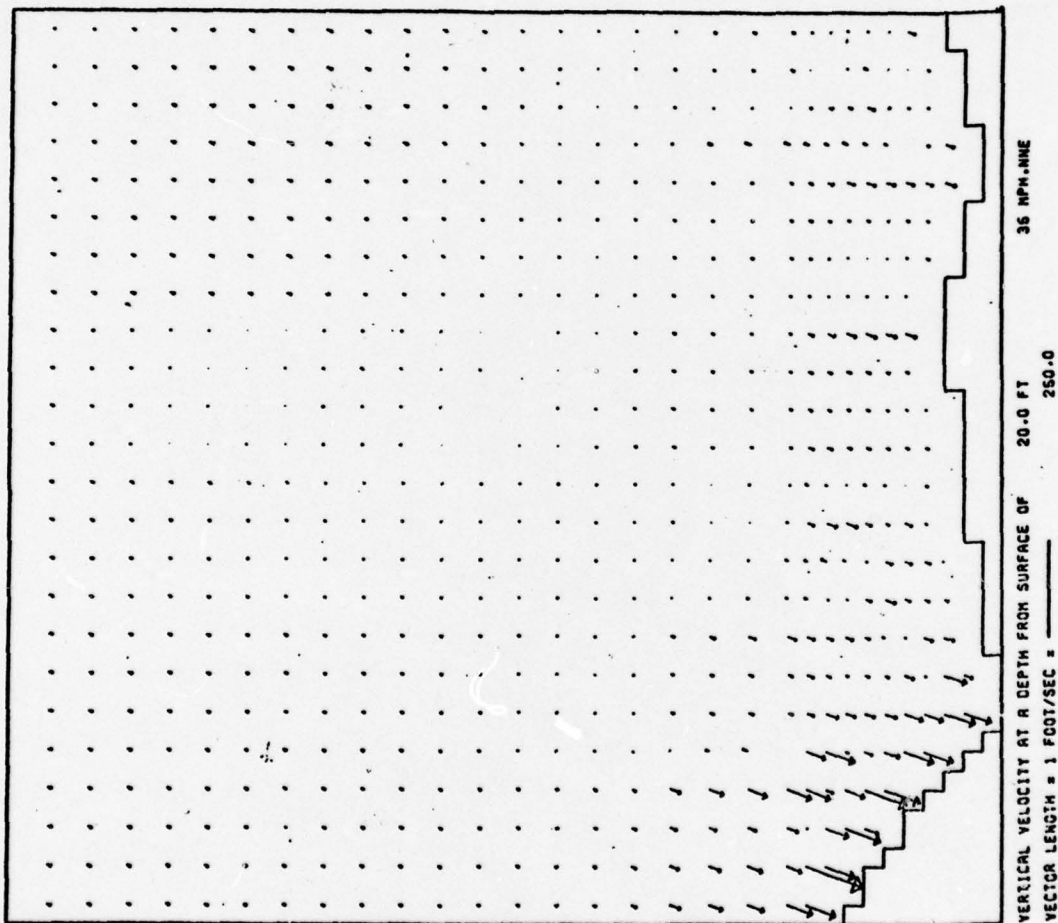
VECTOR LENGTH = 1 FOOT/SEC =

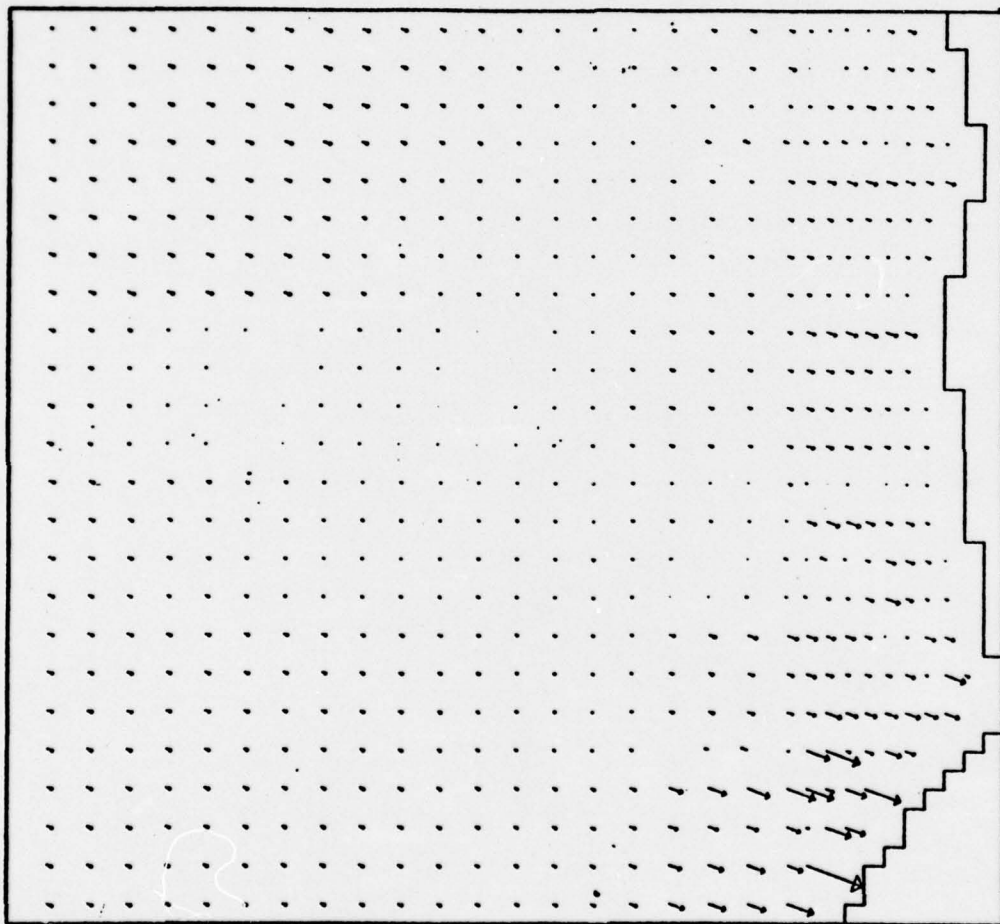


35 MPH.NNE

10.0 FT 250.0

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF _____
VECTOR LENGTH = 1 FOOT/SEC =

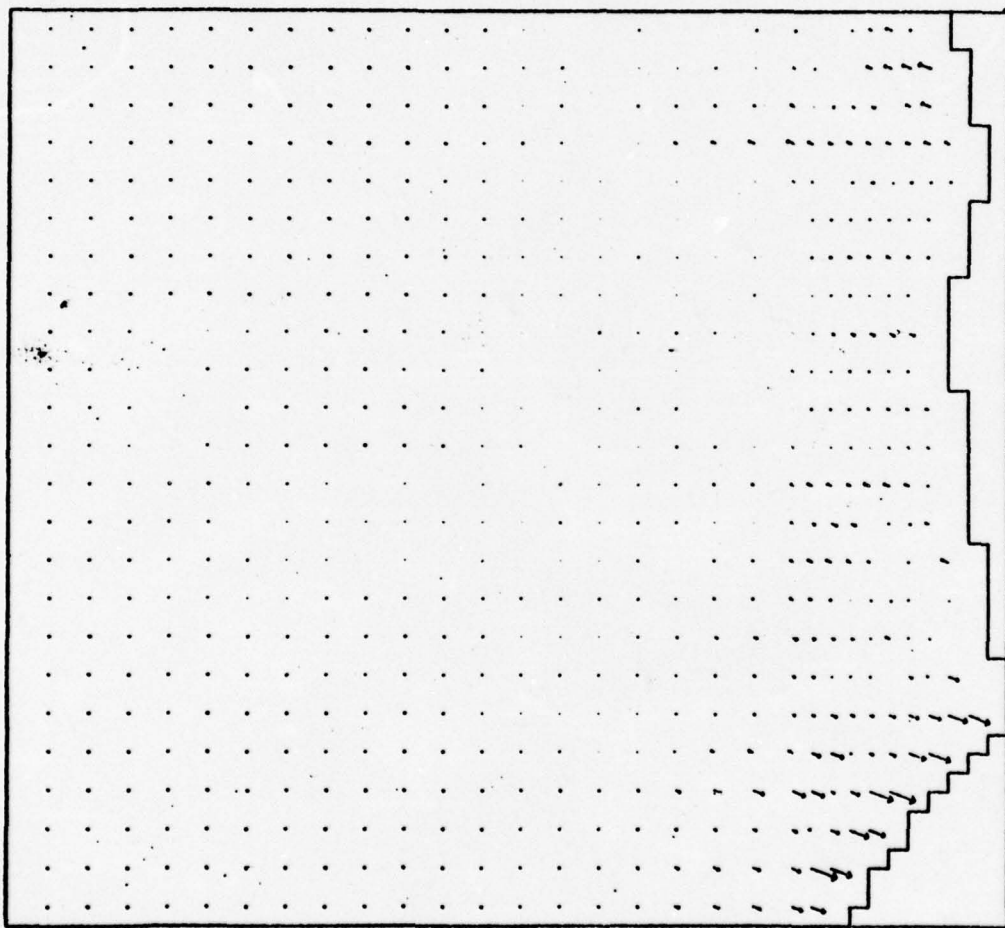




35 MPH.NNE

30.0 FT 250.0

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF
VECTOR LENGTH = 1 FOOT/SEC =



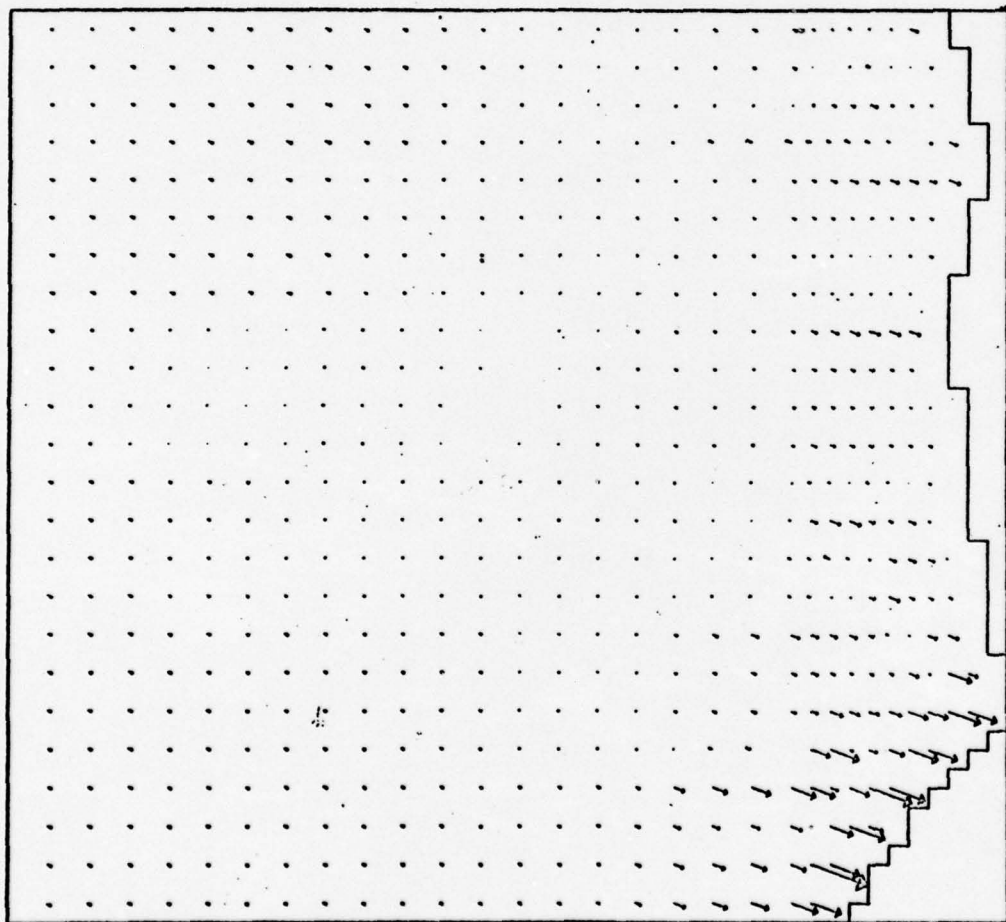
35 MPH.NNE

10.0 FT

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

VECTOR LENGTH = 1 FOOT/SEC =

250.0



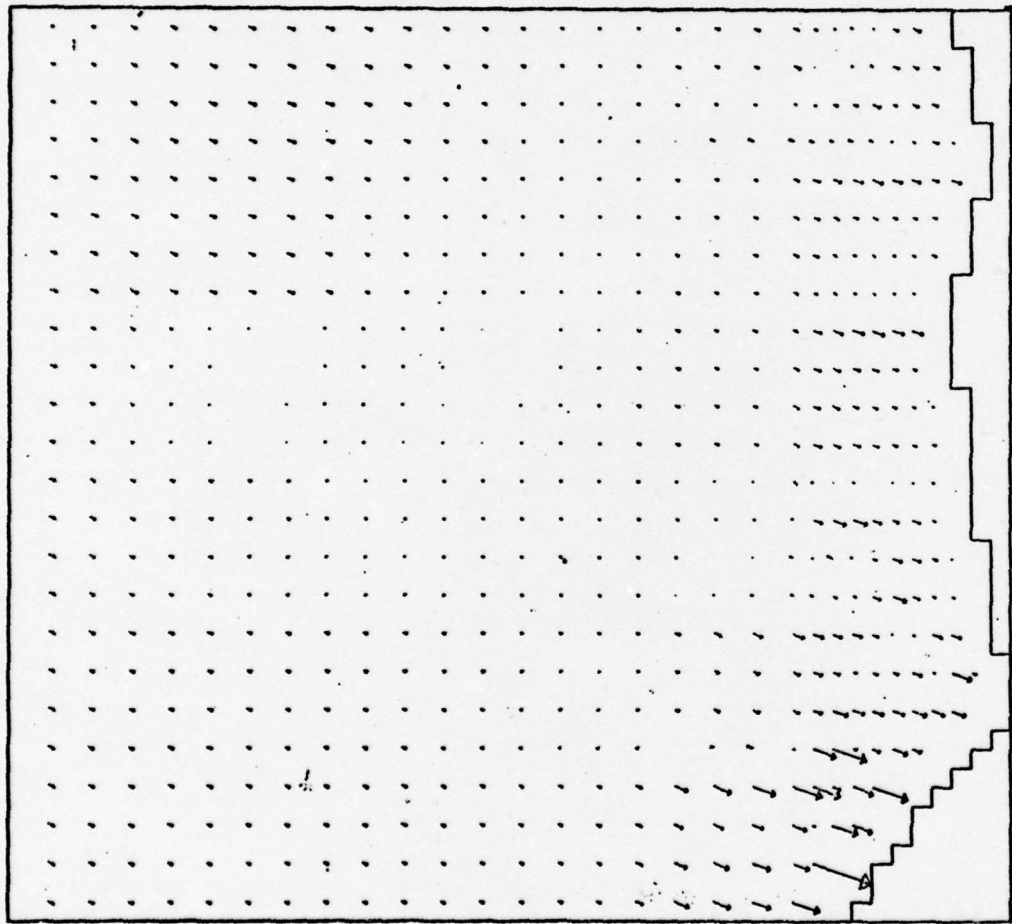
35 MPH.NNE

20.0 FT

250.0

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

VECTOR LENGTH = 1 FOOT/SEC =



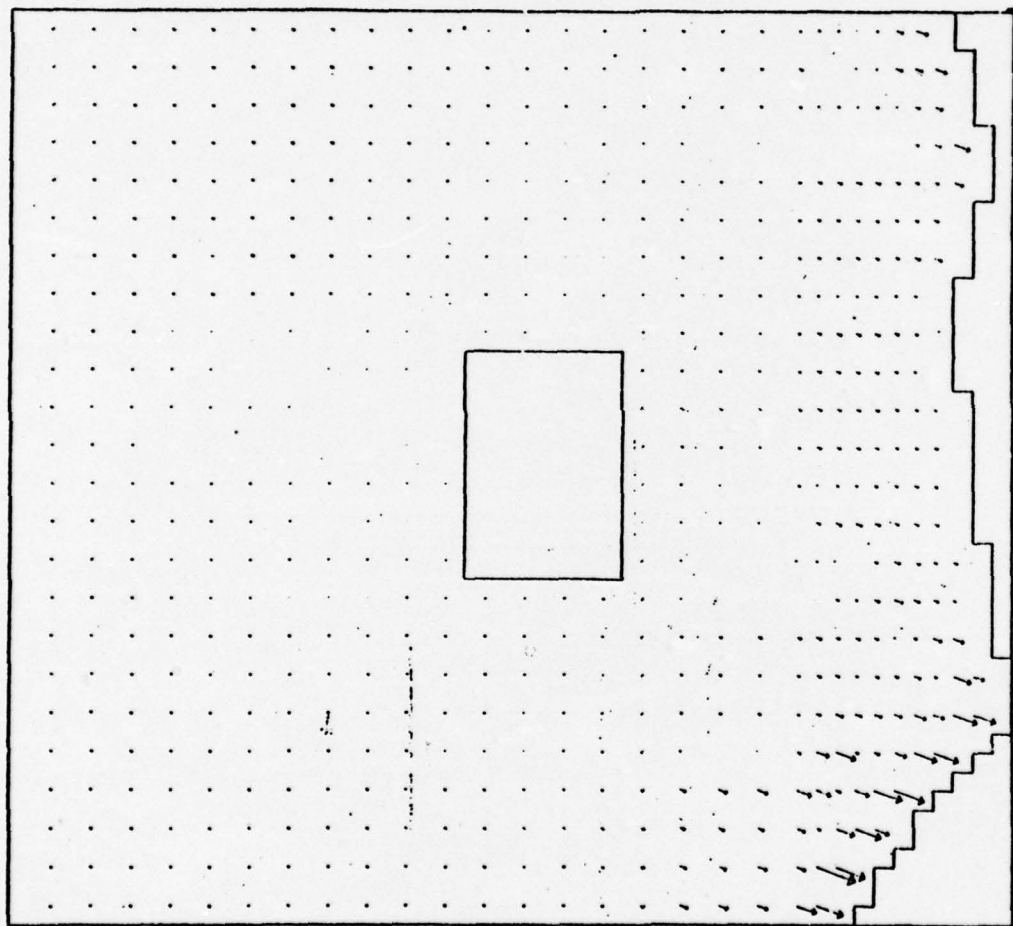
35 MPH.NNE

30.0 FT

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

250.0

VECTOR LENGTH = 1 FOOT/SEC =



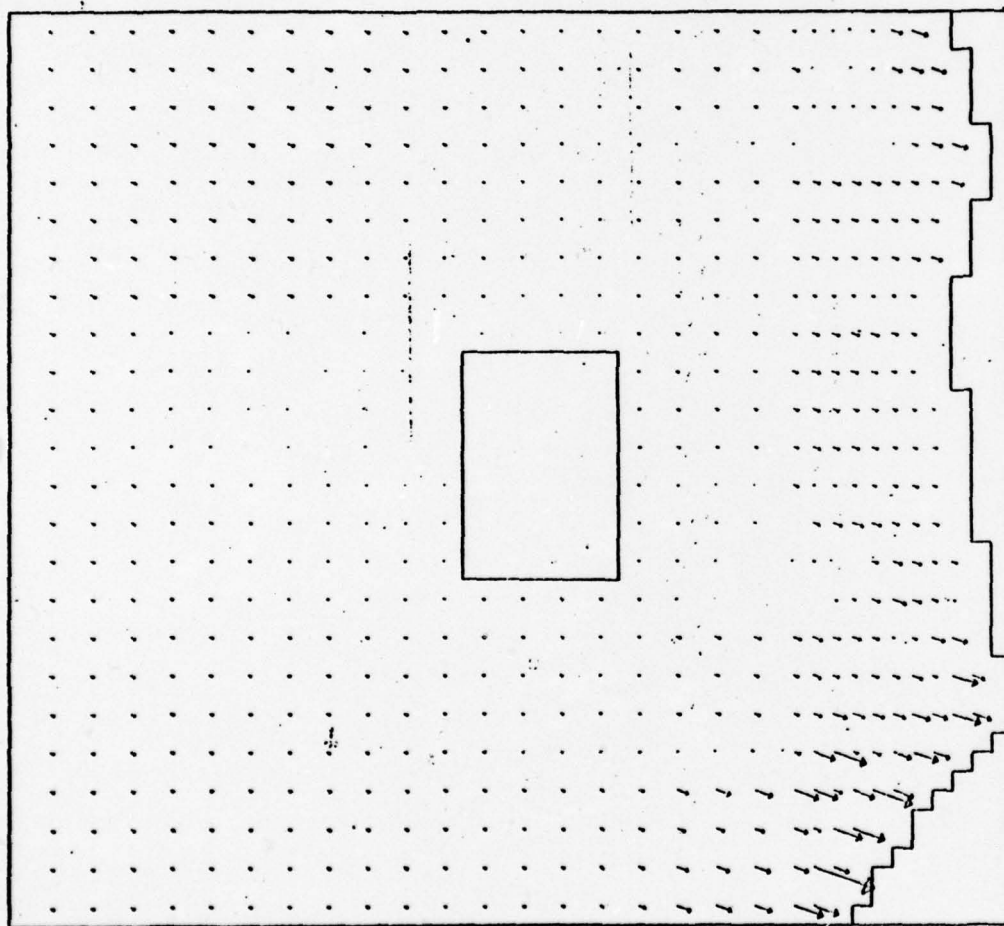
35 MPH.NNE

10.0 FT

250.0

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

VECTOR LENGTH = 1 FOOT/SEC =



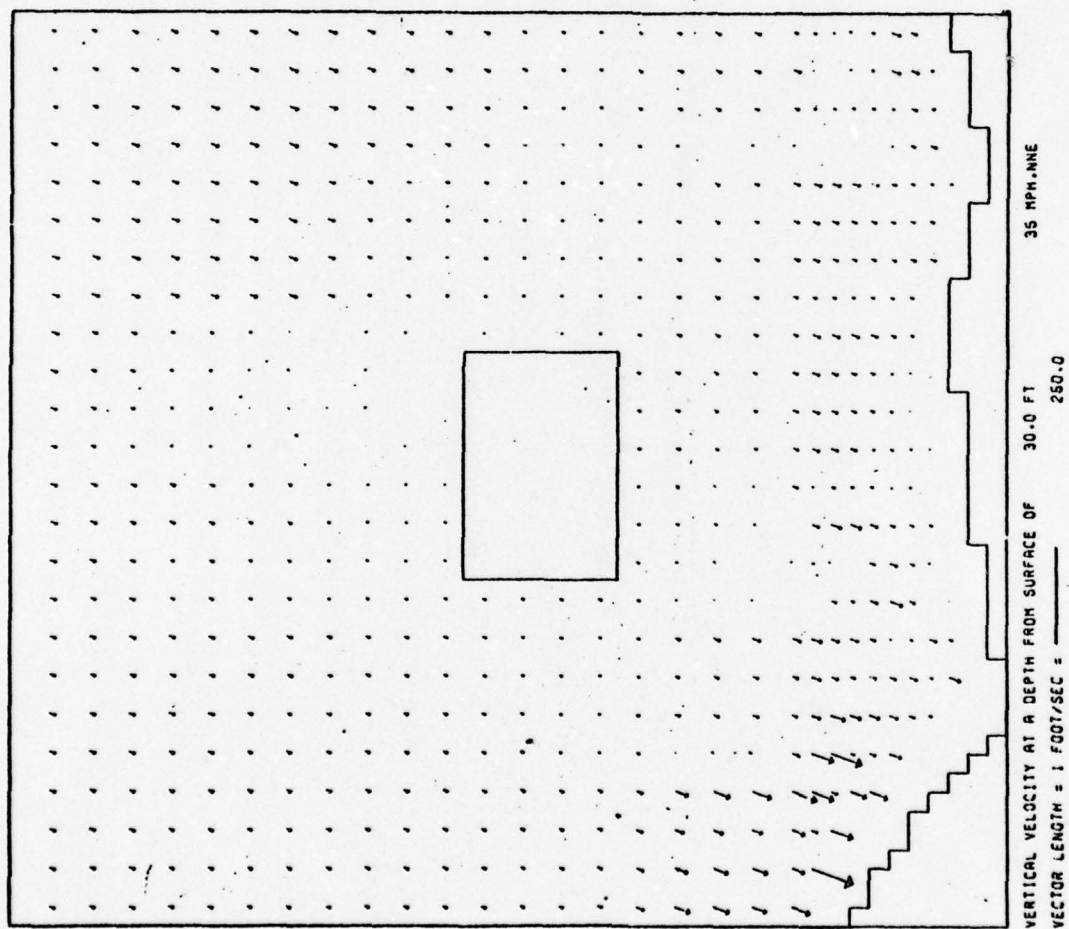
35 MPH-MNE

20.0 FT

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

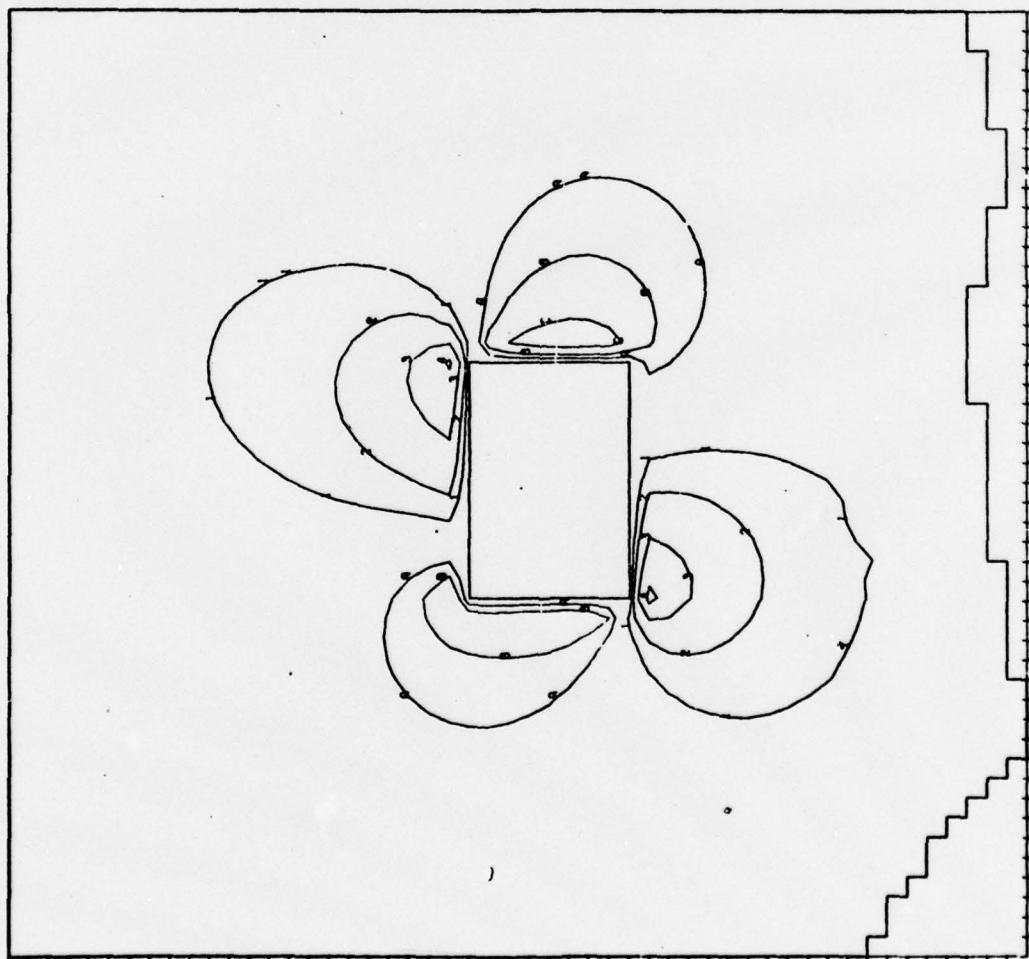
250.0

VECTOR LENGTH = 1 FOOT/SEC =



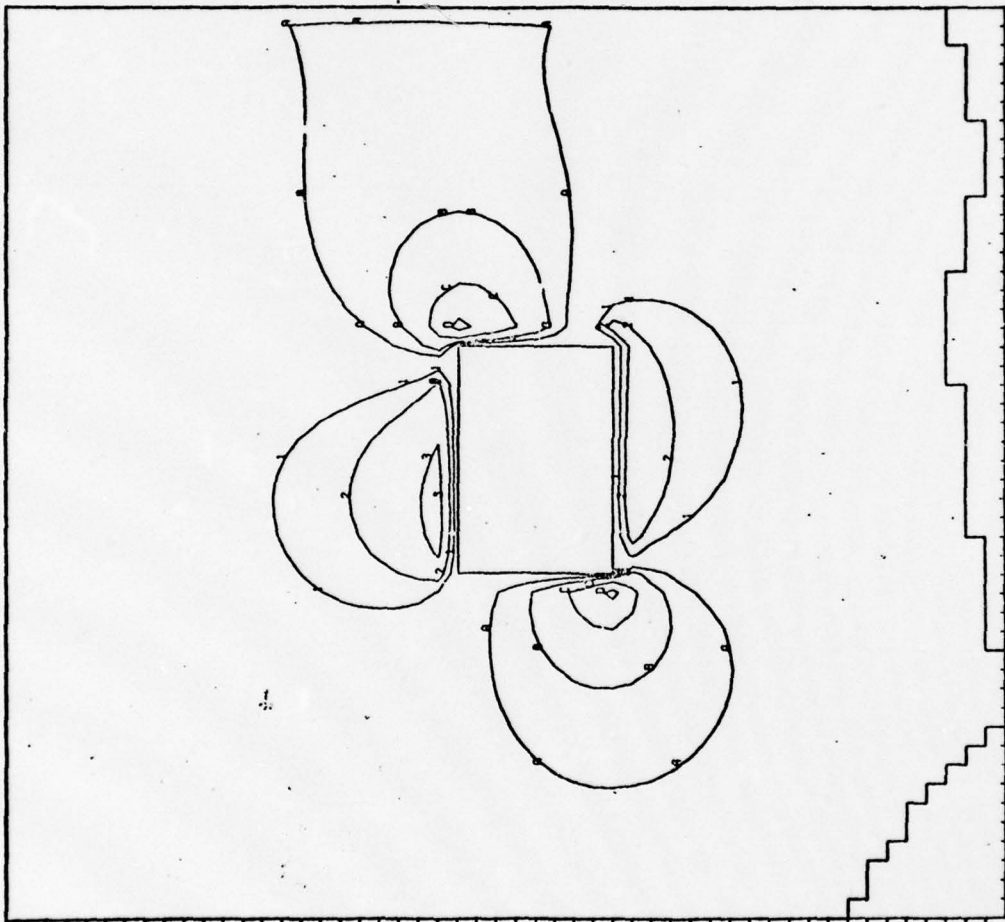
SYMBOLS
 1
 2
 3
 4
 5
 6
 7
 8
 9
 A
 B
 C
 D
 E
 F
 G
 H
 I

CONTOUR LEVELS
 0.050
 0.100
 0.200
 0.400
 0.600
 0.800
 1.000
 1.500
 2.000
 -0.050
 -0.100
 -0.200
 -0.400
 -0.600
 -0.800
 -1.000
 -1.500
 -2.000



CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

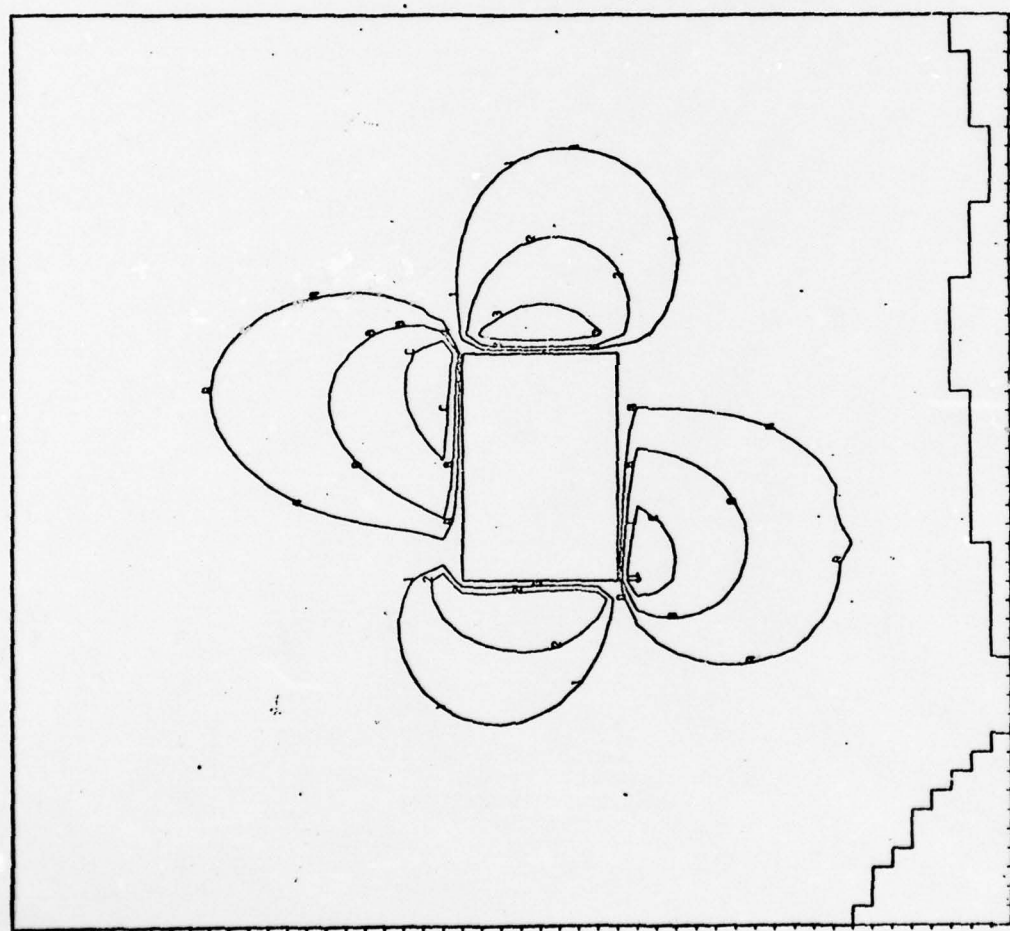
U.D=0.W=35NNE



SYMBOLS CONTOUR LEVELS
 1 0.050
 2 0.100
 3 0.200
 4 0.400
 5 0.600
 6 0.800
 7 1.000
 8 1.500
 9 2.000
 A -0.050
 B -0.100
 C -0.200
 D -0.400
 E -0.600
 F -0.800
 G -1.000
 H -1.500
 I -2.000

CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

V.D=0.W=35NNE



CONTOUR LEVELS

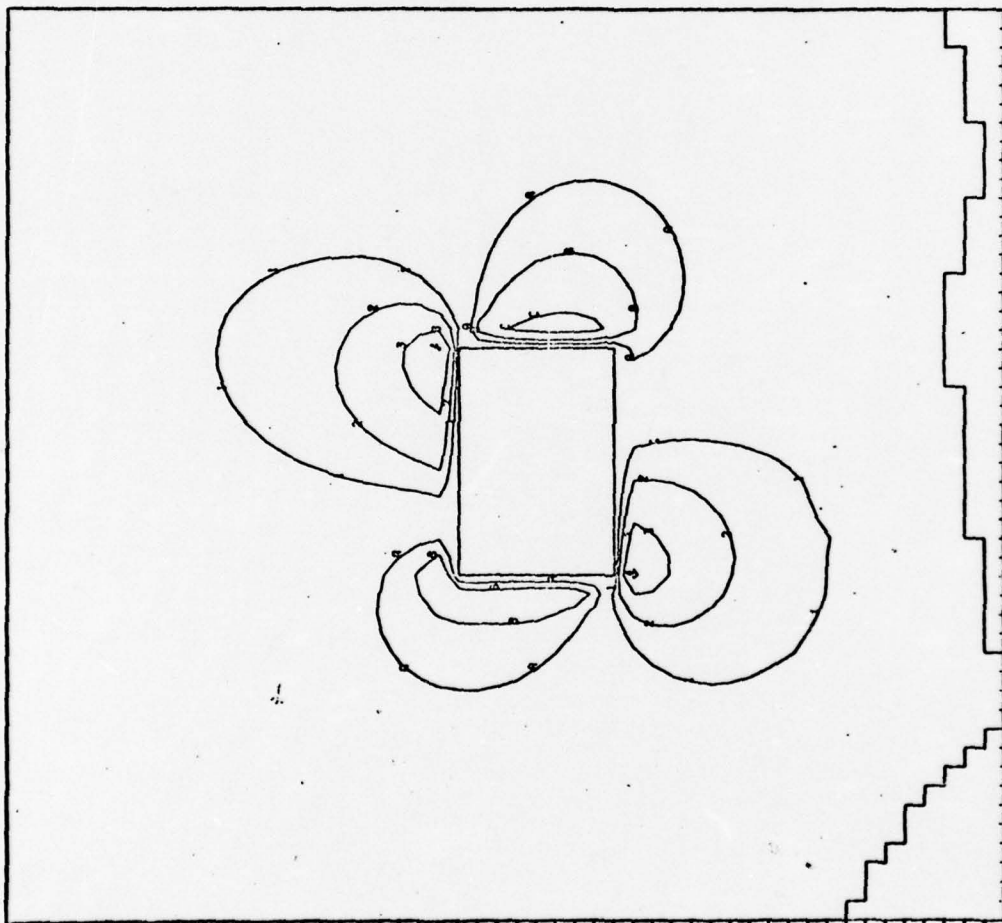
SYMBOLS

0.050
0.100
0.200
0.400
0.600
0.600
1.000
1.500
2.000
-0.050
-0.100
-0.200
-0.400
-0.600
-0.800
-1.000
-1.500
-2.000

CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

$$M.D=0.\dot{M}=35NNE$$

SYMBOLS CONTOUR LEVELS
 1 0.050
 2 0.100
 3 0.200
 4 0.400
 5 0.600
 6 0.800
 7 1.000
 8 1.200
 9 1.400
 10 1.600
 11 1.800
 12 2.000
 13 -0.050
 14 -0.100
 15 -0.200
 16 -0.400
 17 -0.600
 18 -0.800
 19 -1.000
 20 -1.200
 21 -1.400
 22 -1.600
 23 -1.800
 24 -2.000

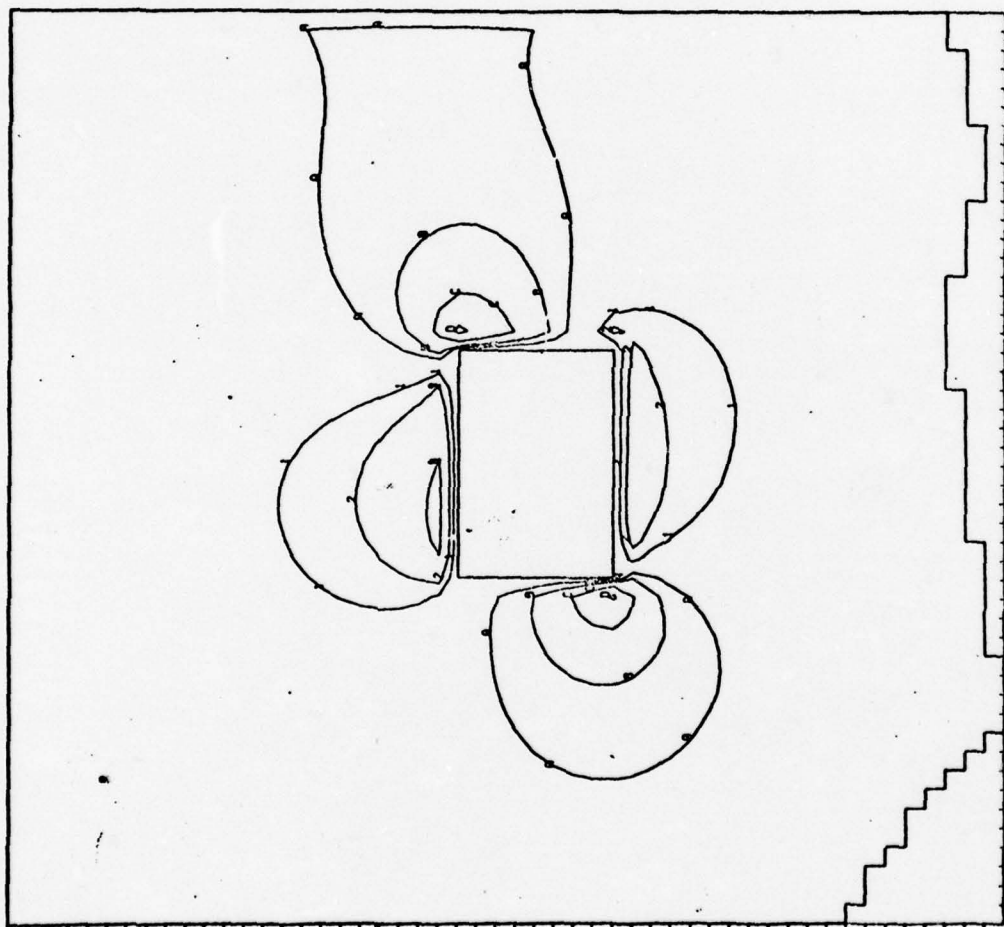


CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

U.D=15.W=35SNE

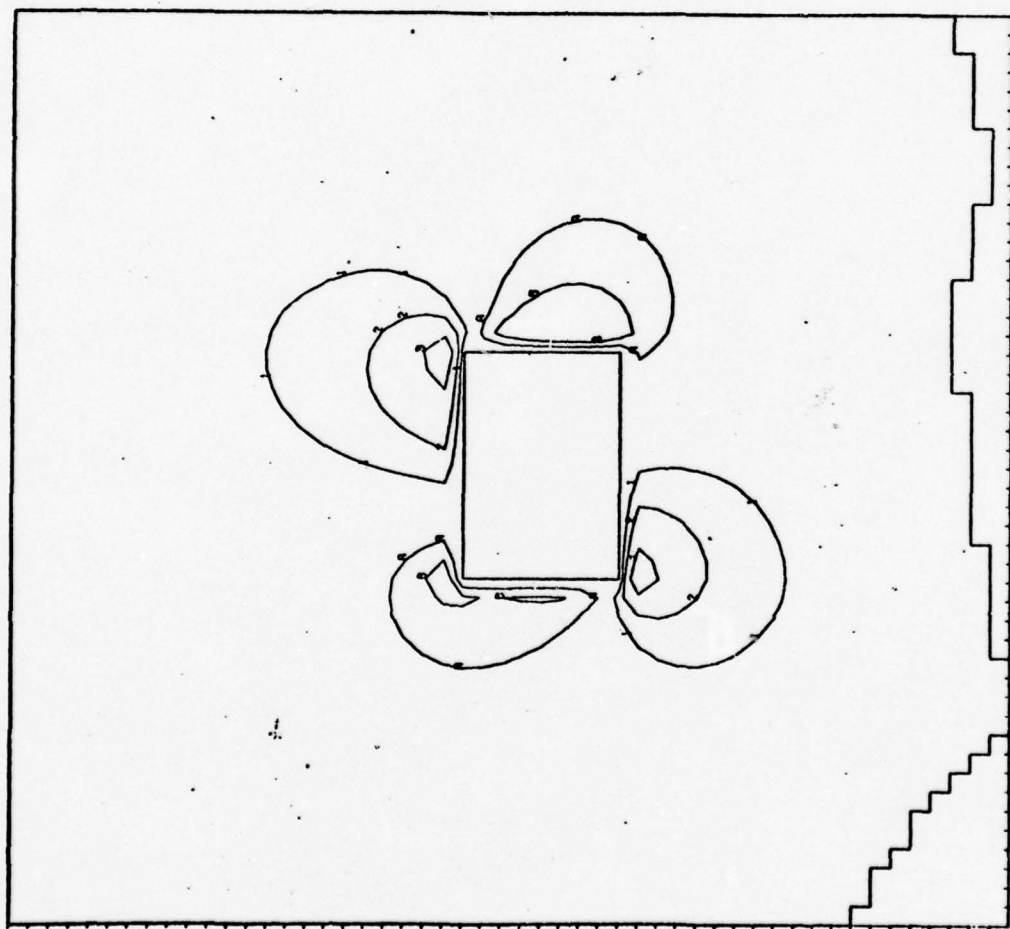
SYMBOLS
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

CONTOUR LEVELS
 0.050
 0.100
 0.200
 0.400
 0.600
 0.800
 1.000
 1.500
 2.000
 -0.050
 -0.100
 -0.200
 -0.400
 -0.600
 -0.800
 -1.000
 -1.500
 -2.000



CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

V.D=15.H=35NNE



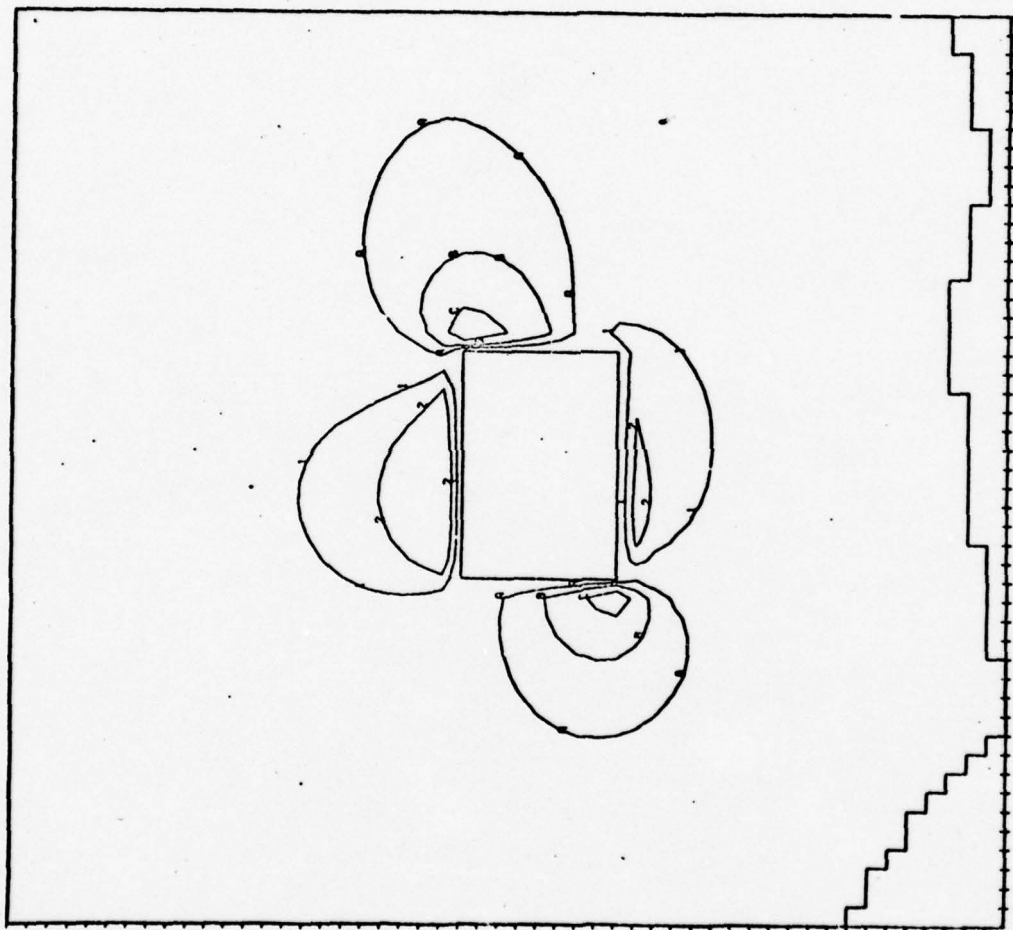
SYMBOLS

CONTOUR LEVELS

0.050
0.100
0.200
0.400
0.600
0.800
1.000
1.500
2.000
-0.050
-0.100
-0.200
-0.400
-0.600
-0.800
-1.000
-1.500
-2.000

U.D=30 .H=35NNE

CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

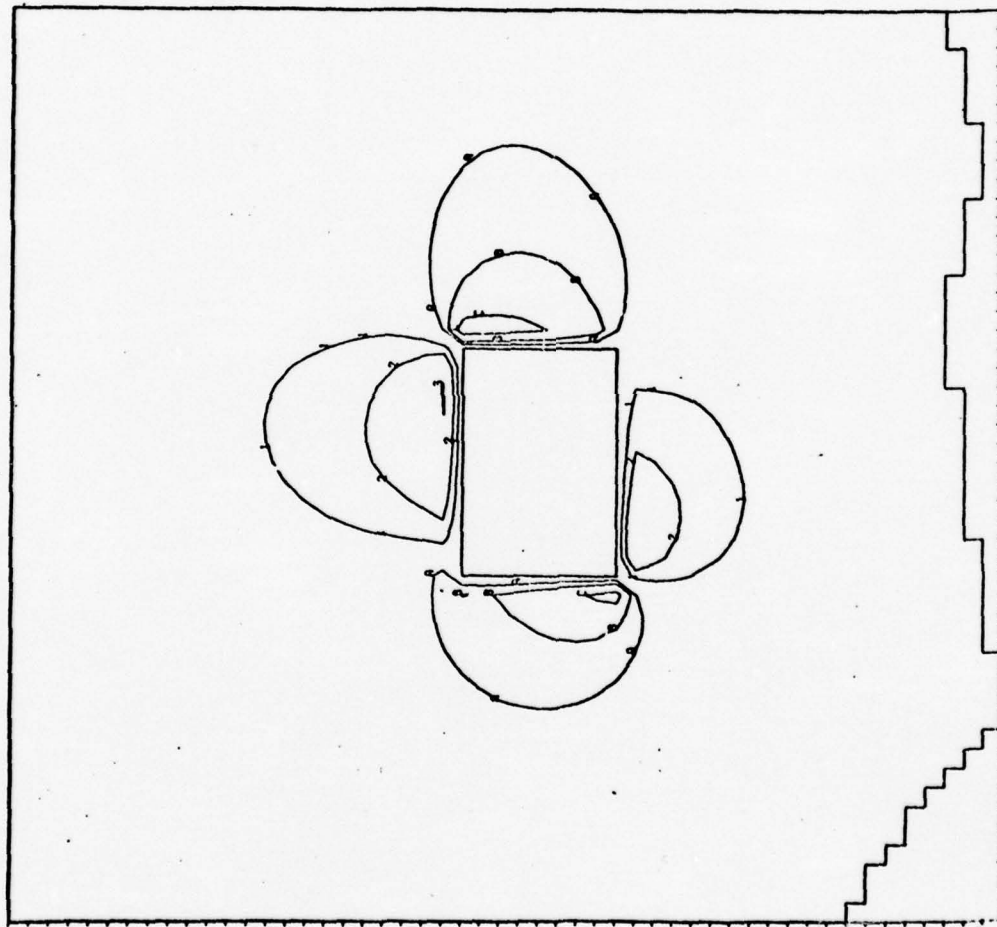


CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

V.D=30.H=35NNE

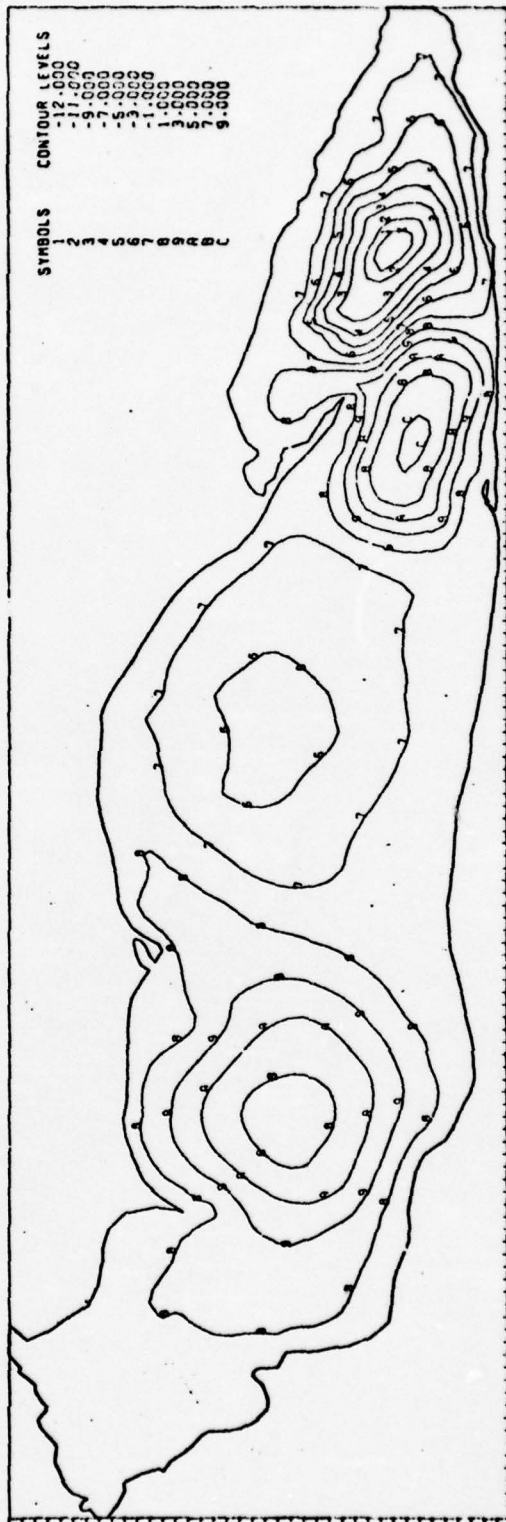
SYMBOLS CONTOUR LEVELS

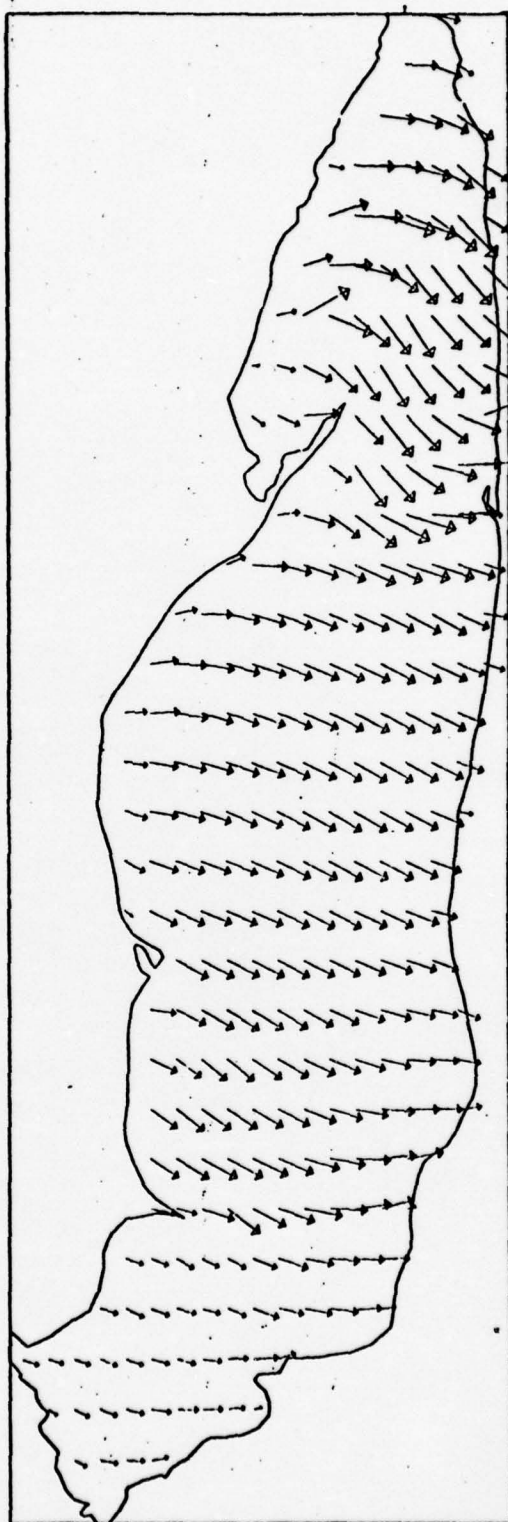
1	0.050
2	0.100
3	0.200
4	0.400
5	0.600
6	0.800
7	1.000
8	1.500
9	2.000
A	-0.050
B	-0.100
C	-0.200
D	-0.400
E	-0.600
F	-0.800
G	-1.000
H	-1.500
I	-2.000



CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

M.P. 4.2.8.8.8.8.8.



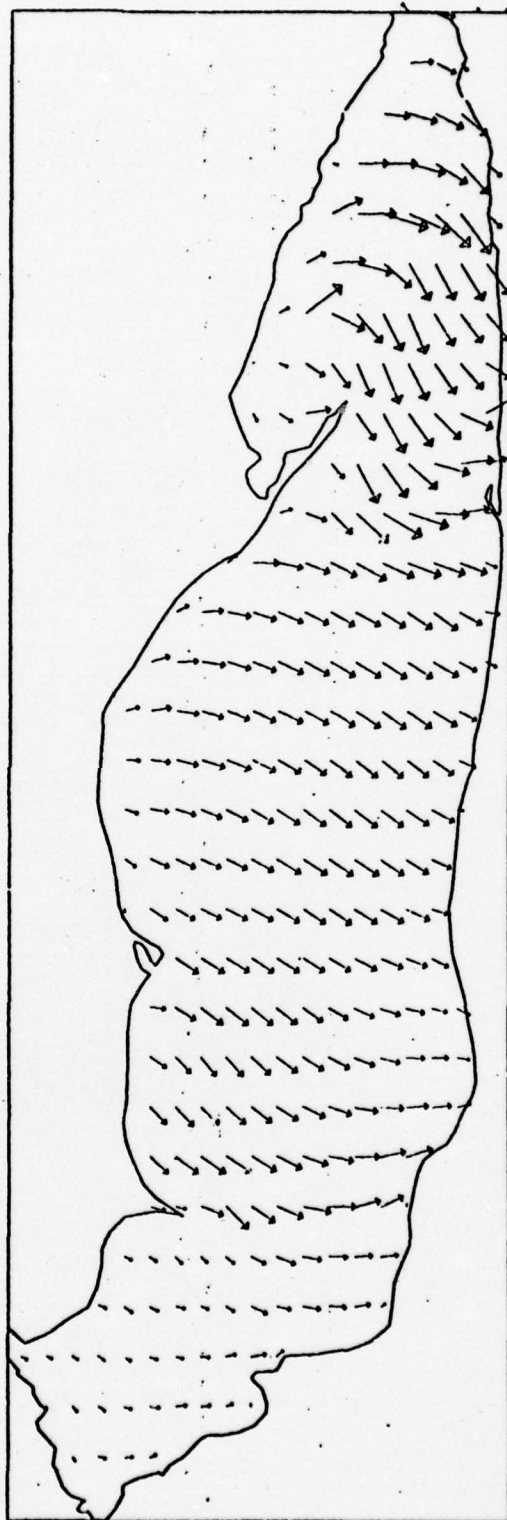


35 MPH.NNM

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 0.0 FT

1.0

VECTOR LENGTH = 1 FOOT/SEC = —

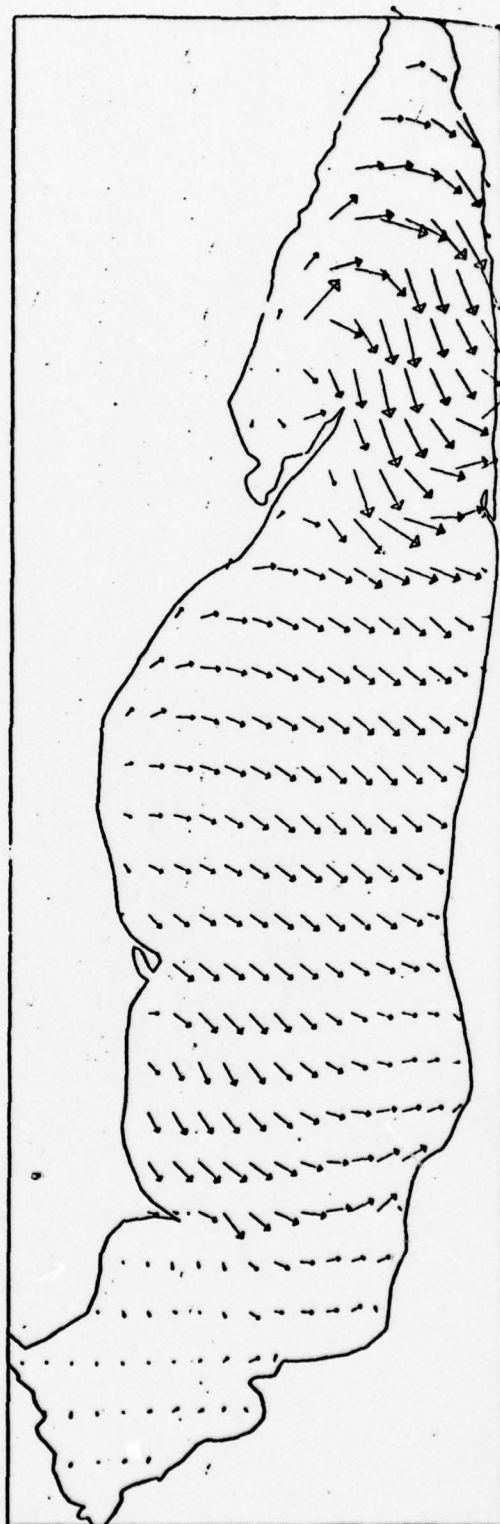


35 MPH.NNH

5.0 FT

1.0

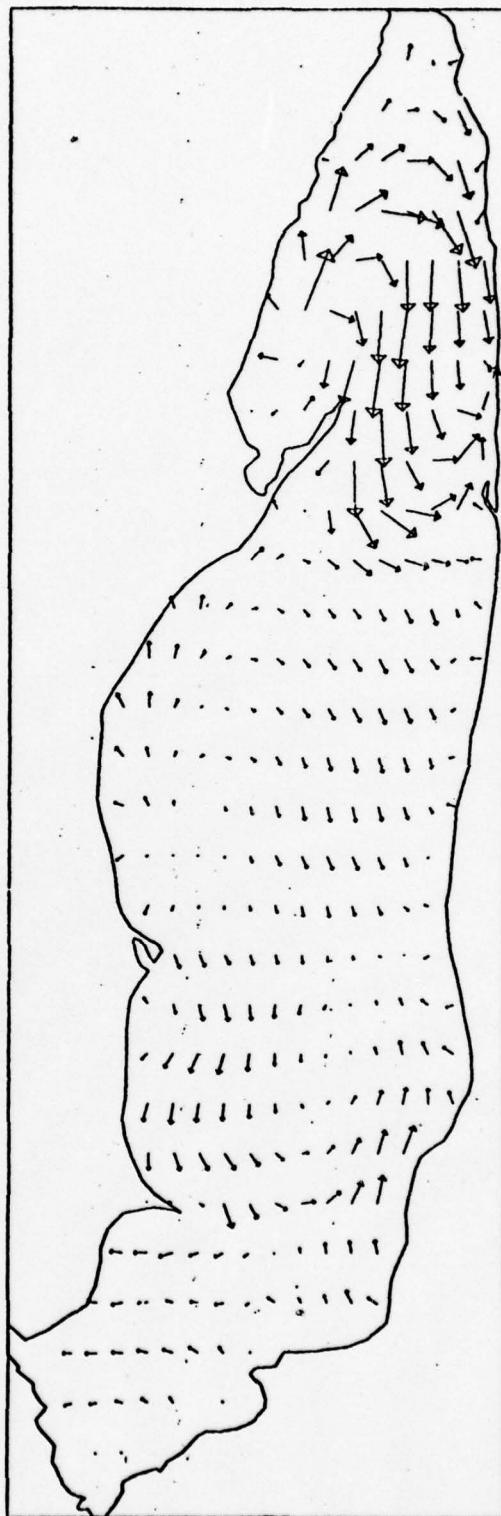
HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 5.0 FT
VECTOR LENGTH = 1 FOOT/SEC = —



35 MPH>NNW

10.0 FT

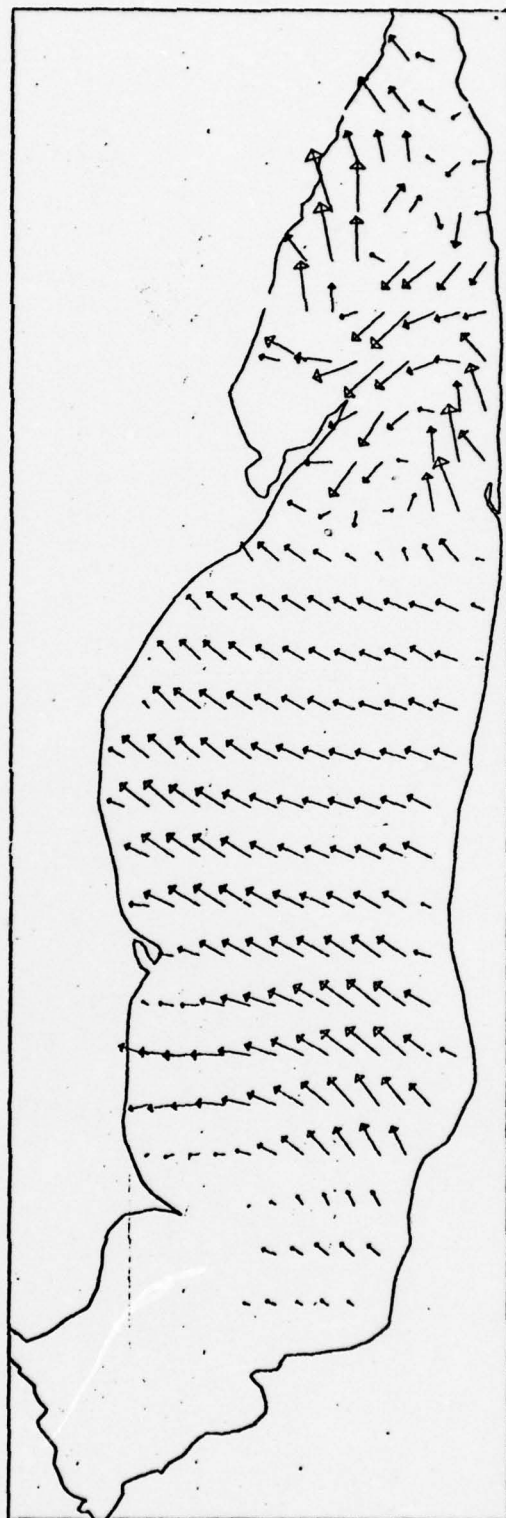
HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 10.0 FT
VECTOR LENGTH = 1 FOOT/SEC = —



35 MPH.NNH

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 20.0 FT

VECTOR LENGTH = 1 FOOT/SEC = — 1.0

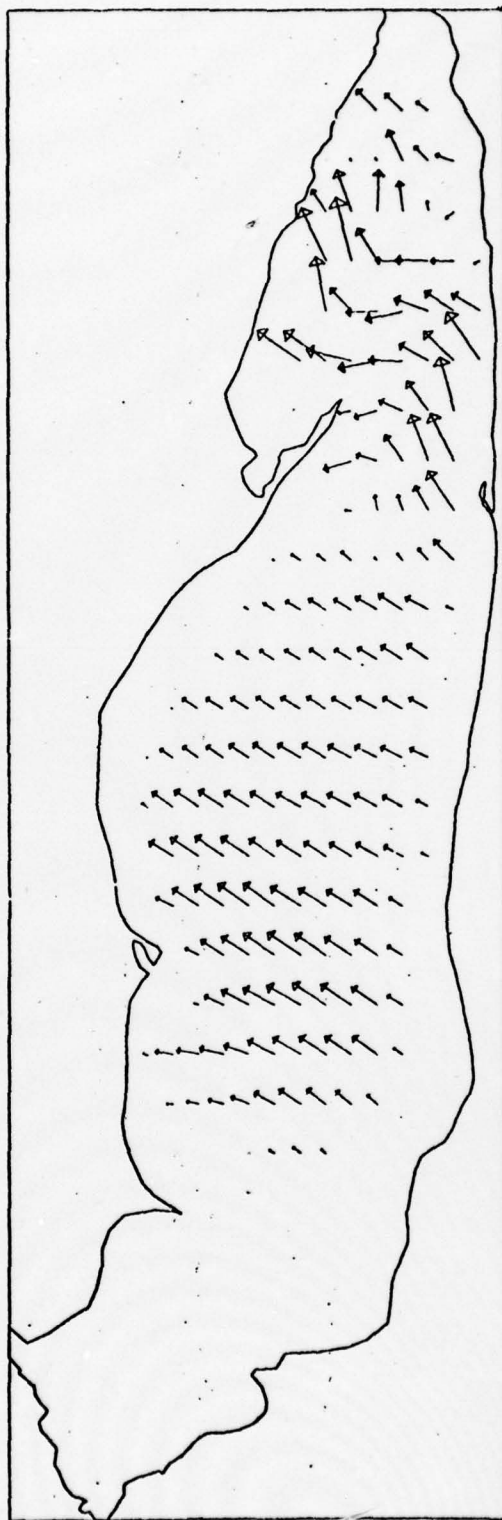


35 MPH.NNW

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 40.0 FT

1.0

VECTOR LENGTH = 1.000/SEC = —

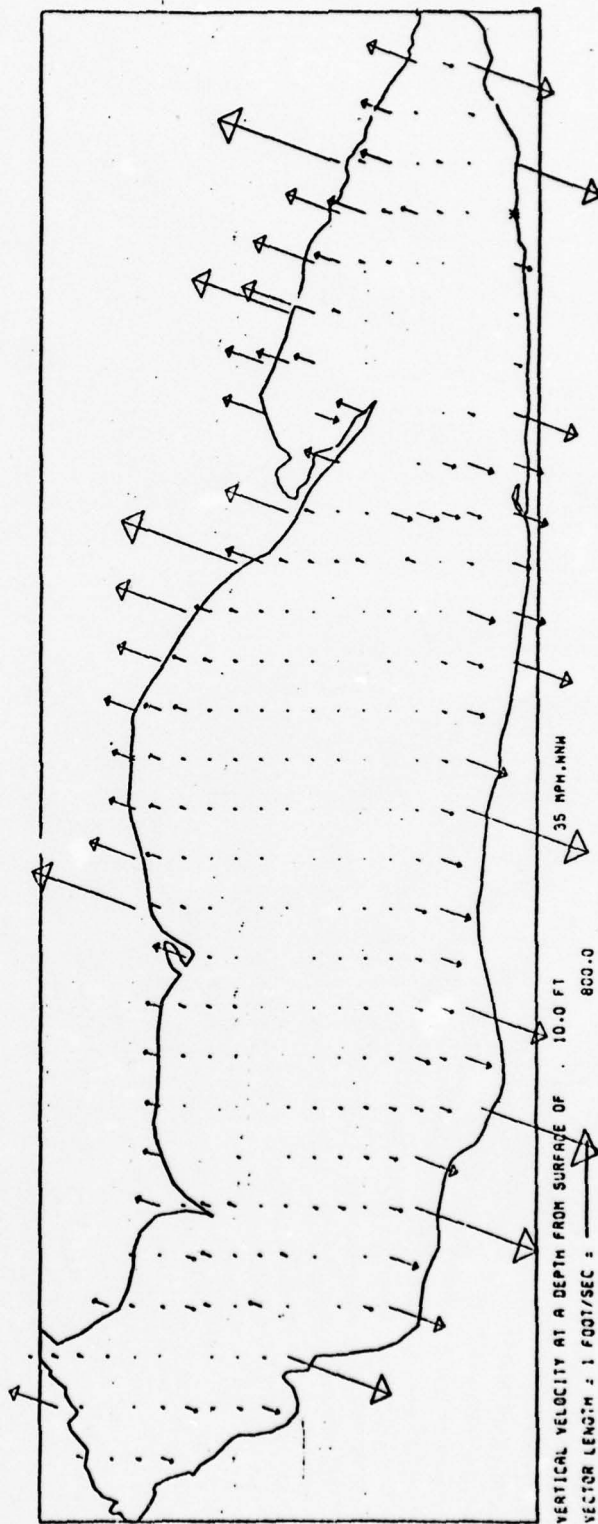


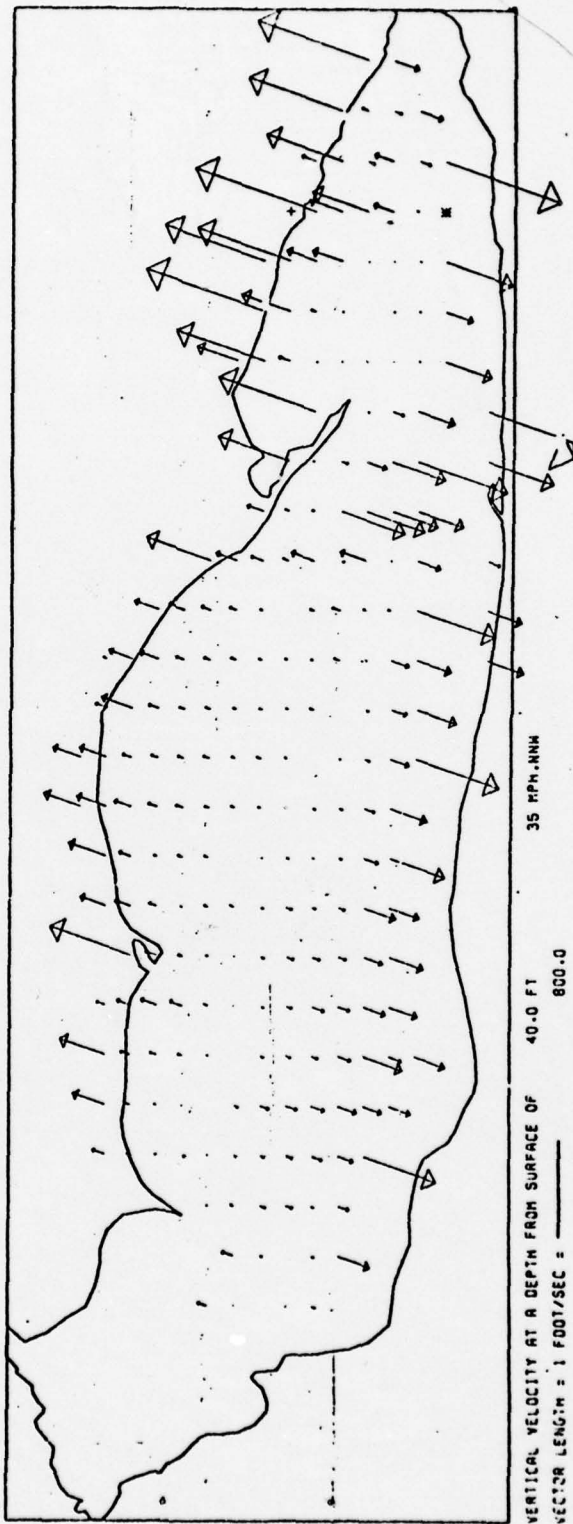
35 MPH-MIN

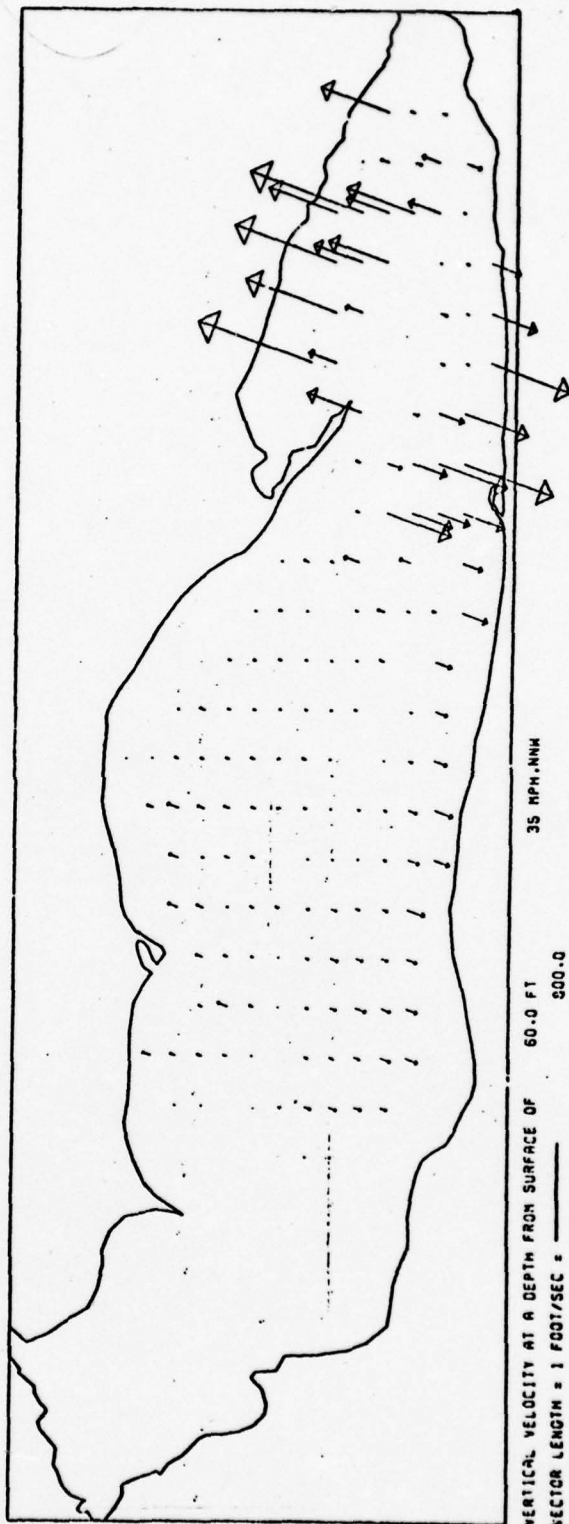
HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 60.0 FT

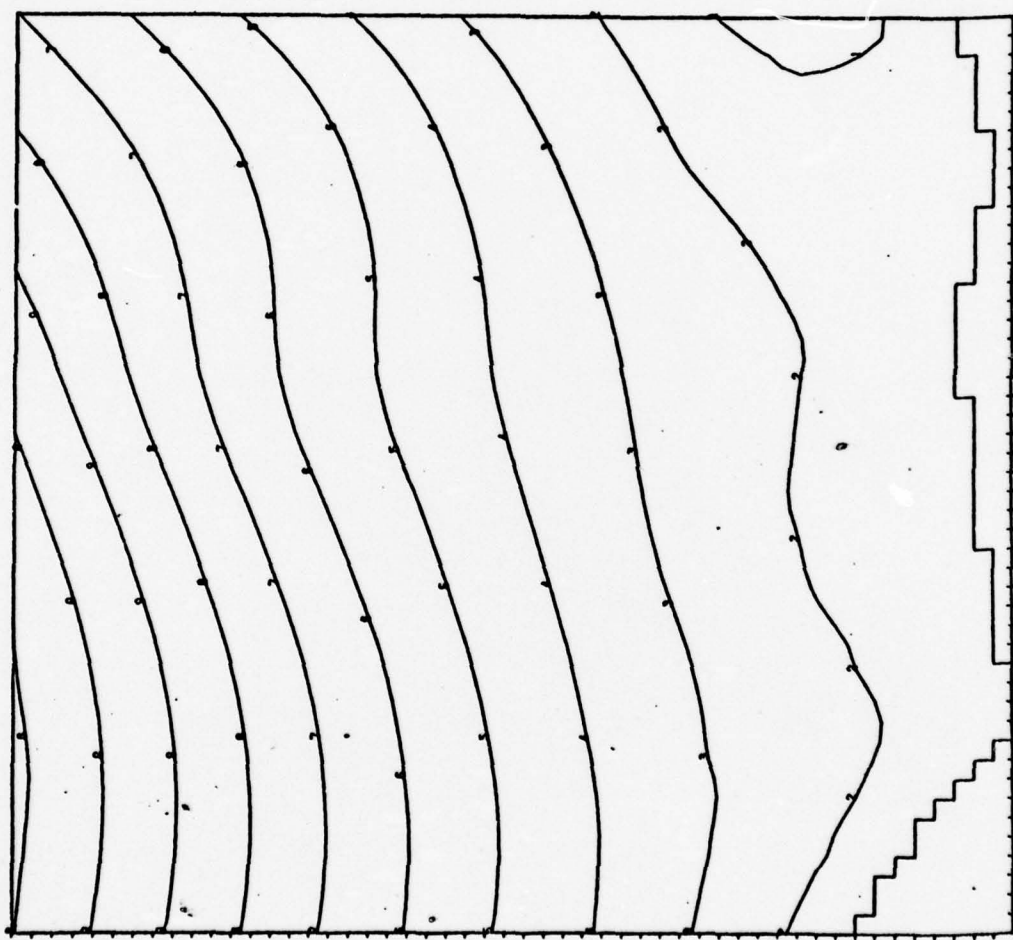
1.0

VECTOR LENGTH = 1 FOOT/SEC = —









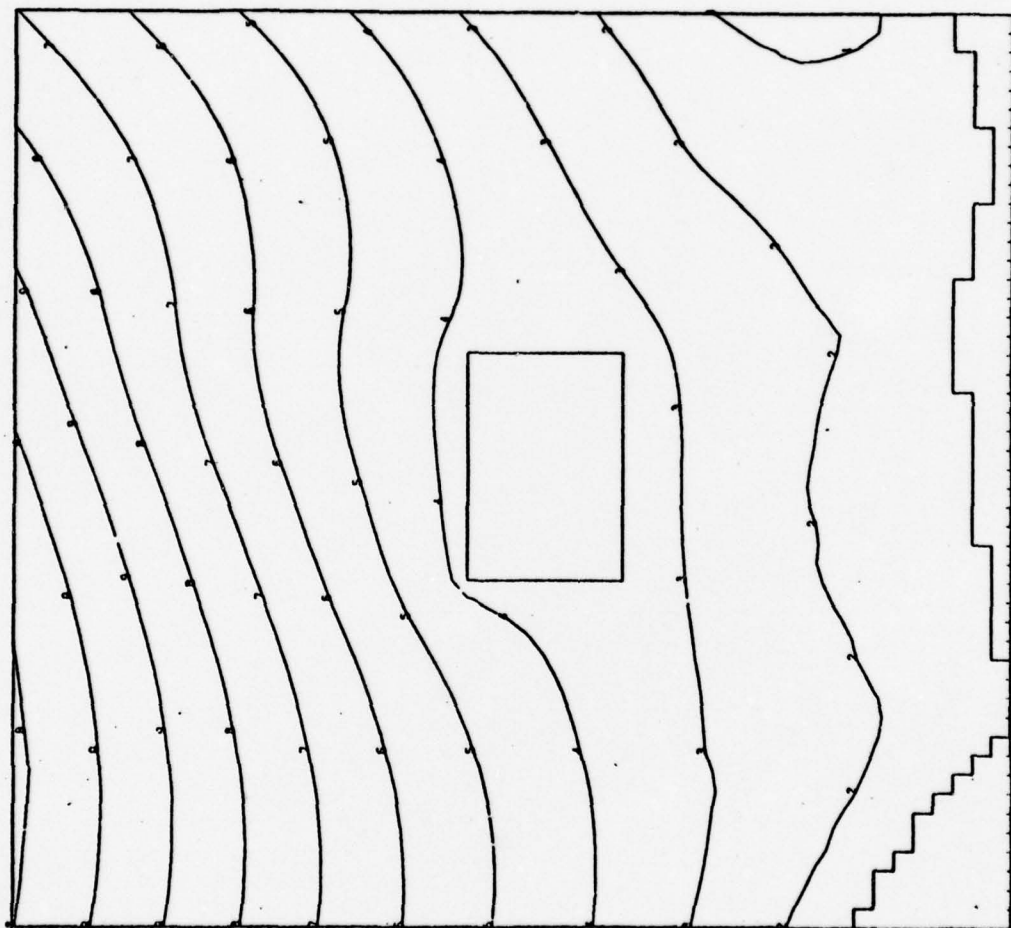
SYMBOLS

SYMBOLS	CONTOUR LEVELS
1	-0.100
2	0.100
3	0.500
4	0.900
5	1.300
6	1.700
7	2.100
8	2.500
9	2.900

CONTOURS OF STREAM FUNCTION FOR LAKE ERIE -- NEARSHORE

WA=35MPH.NNH

SYMBOLS
 1 2 3 4 5 6 7 8 9 0
 CONTOUR LEVELS
 0.100
 0.500
 0.900
 1.300
 1.700
 2.100
 2.500
 2.900
 3.300



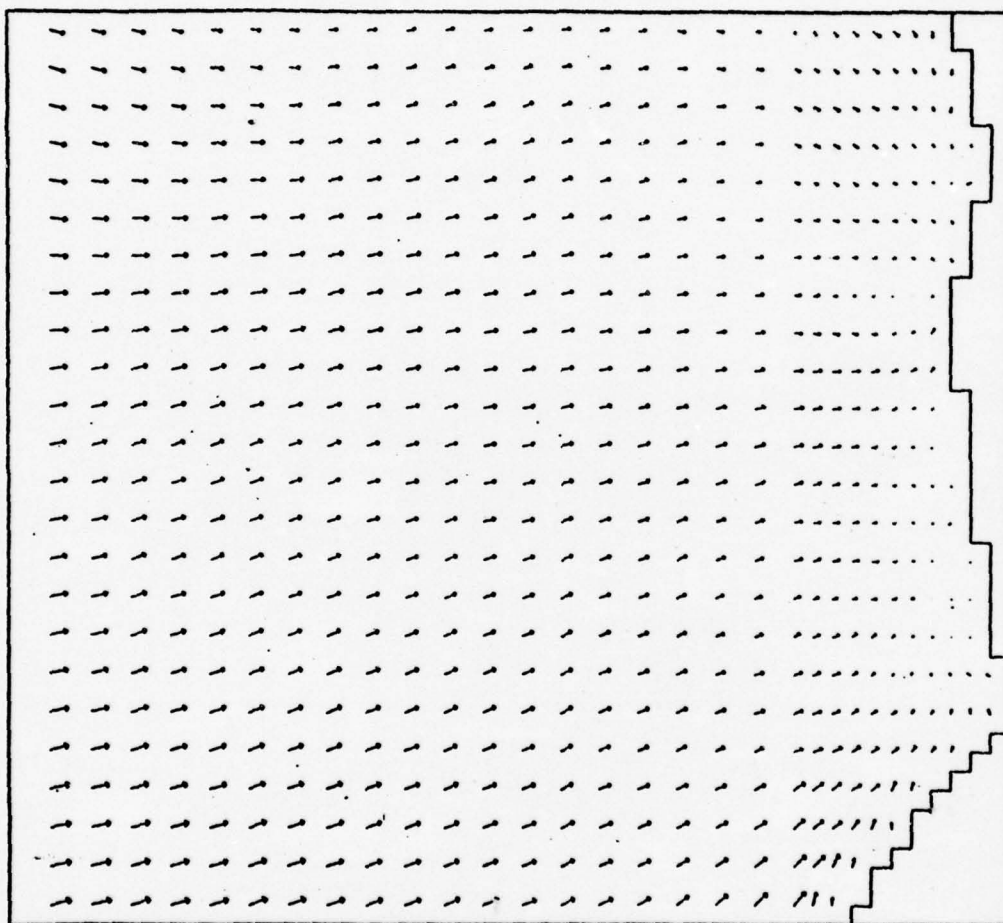
CONTOURS OF STREAM FUNCTION FOR LAKE ERIE -- NEARSHORE

WA-35MPH.NNH



35 MPH.MNH

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 0.0 FT
VECTOR LENGTH = 1 FOOT/SEC = — 1.0

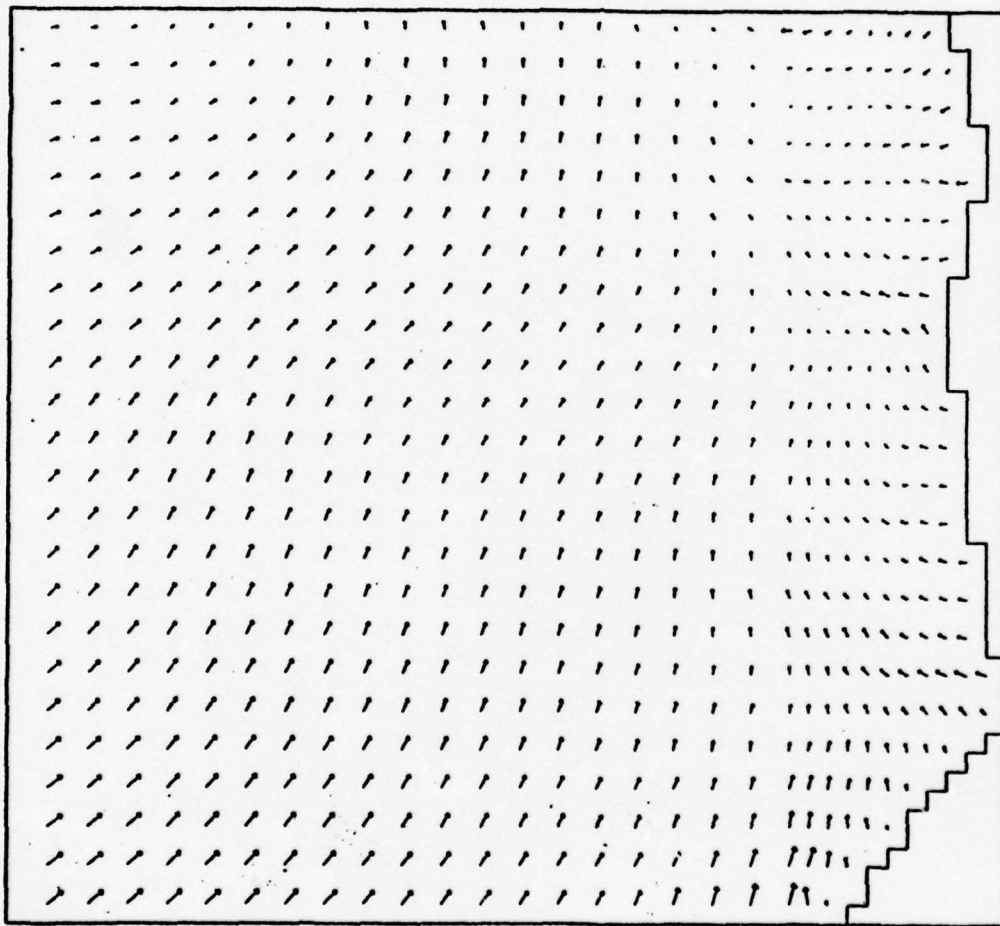


35 MPH>NNH

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 10.0 FT

1.0

VECTOR LENGTH = 1 FOOT/SEC = —

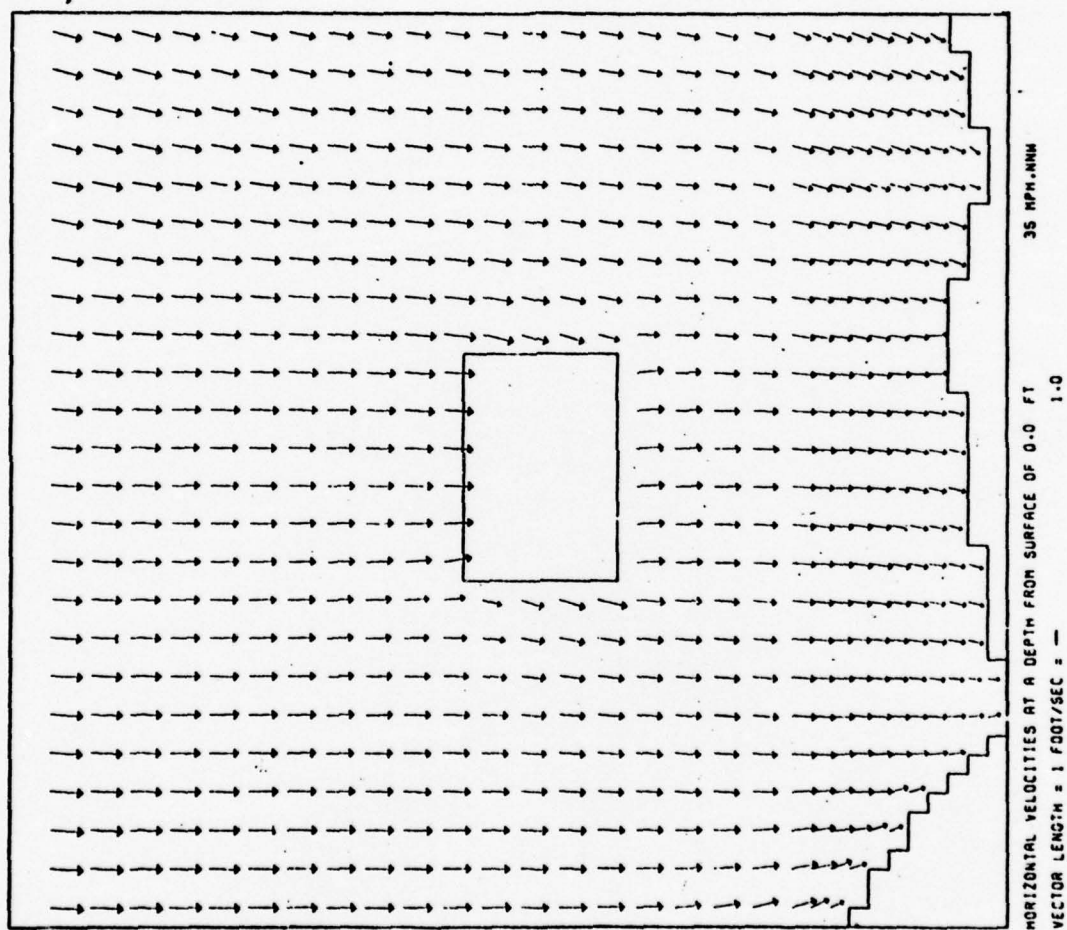


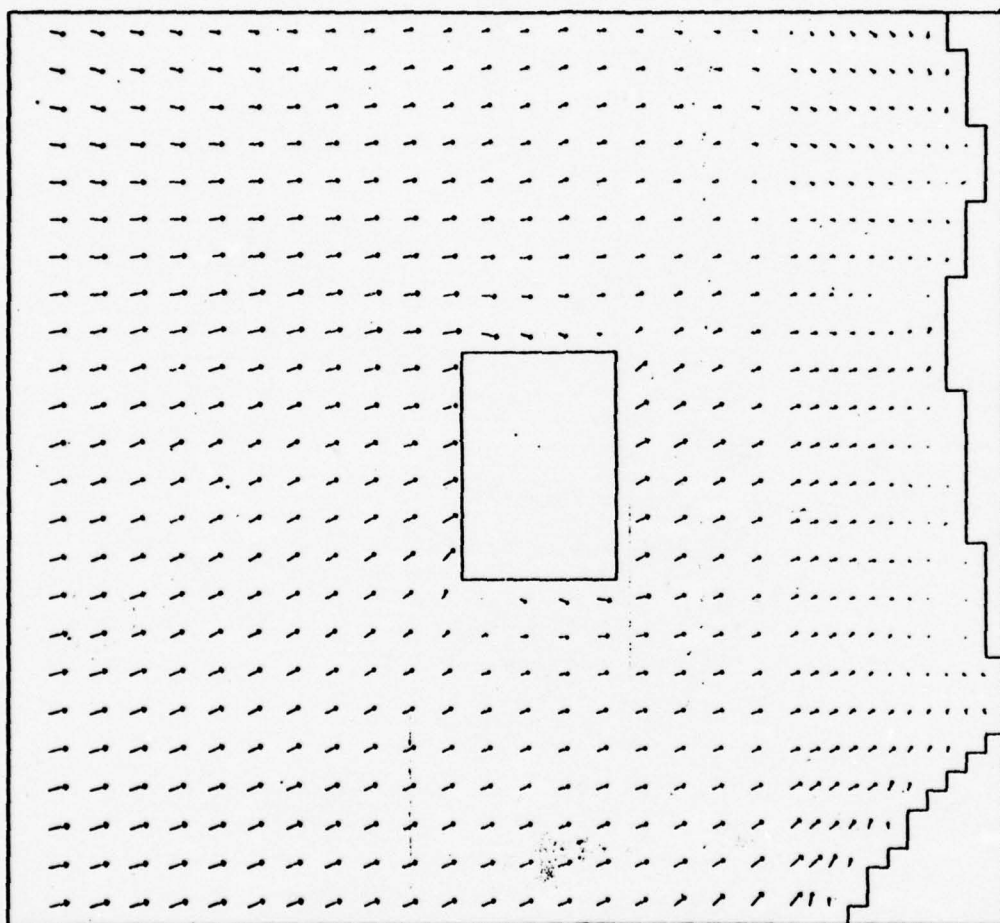
35 MPH/MM

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 15.0 FT

1.0

VECTOR LENGTH = 1 FOOT/SEC = —

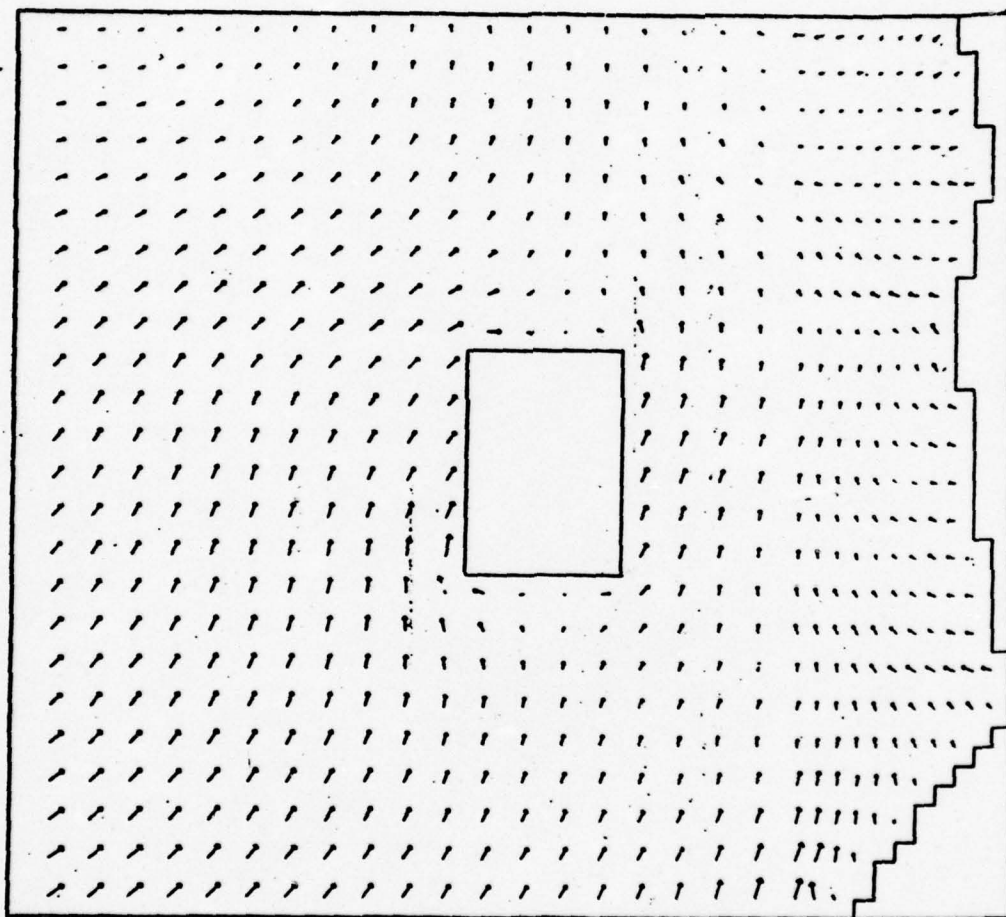




35 MPH-NMM

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 10.0 FT

VECTOR LENGTH = 1 FOOT/SEC = —



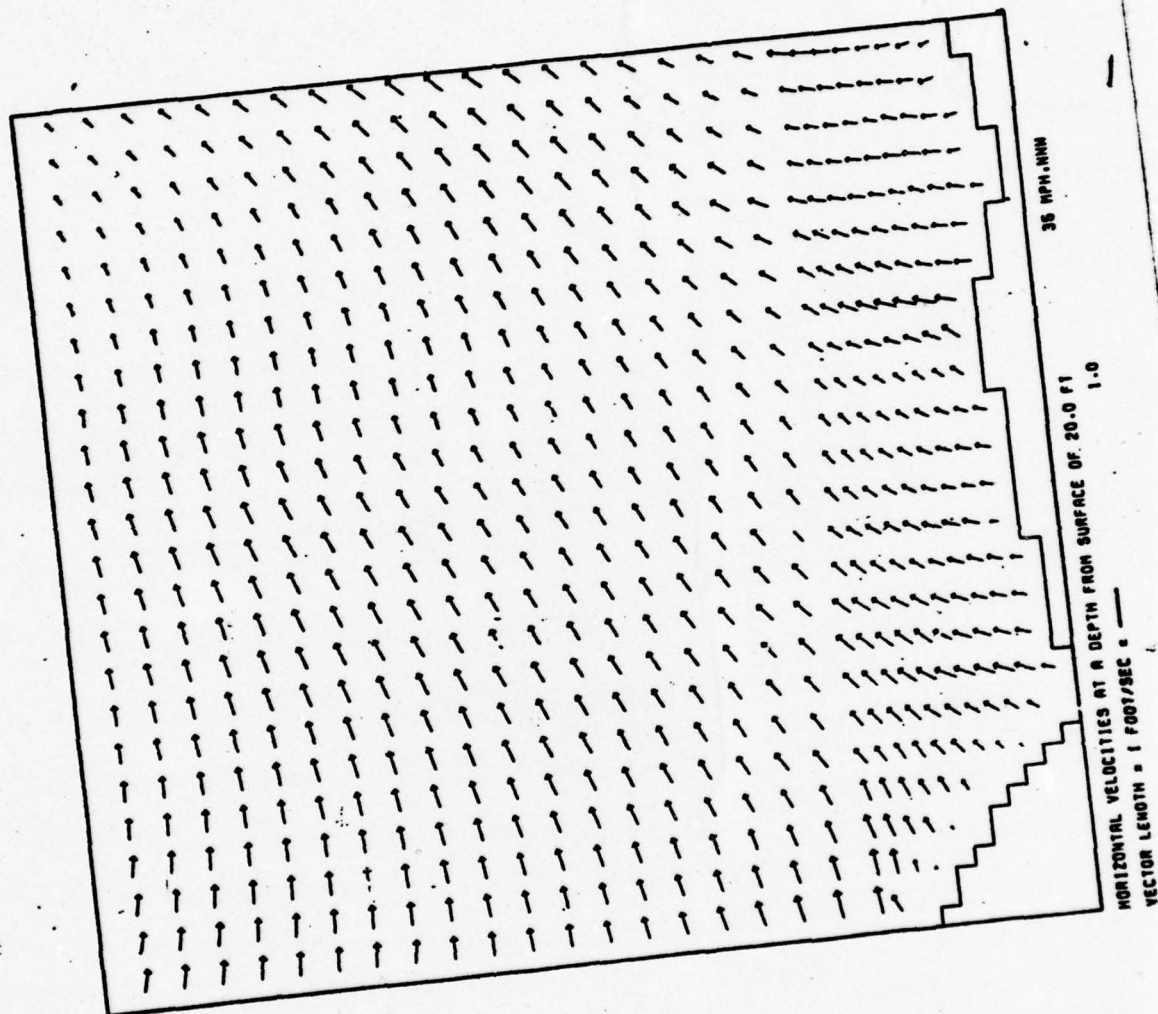
1/2" DIA. HOLE

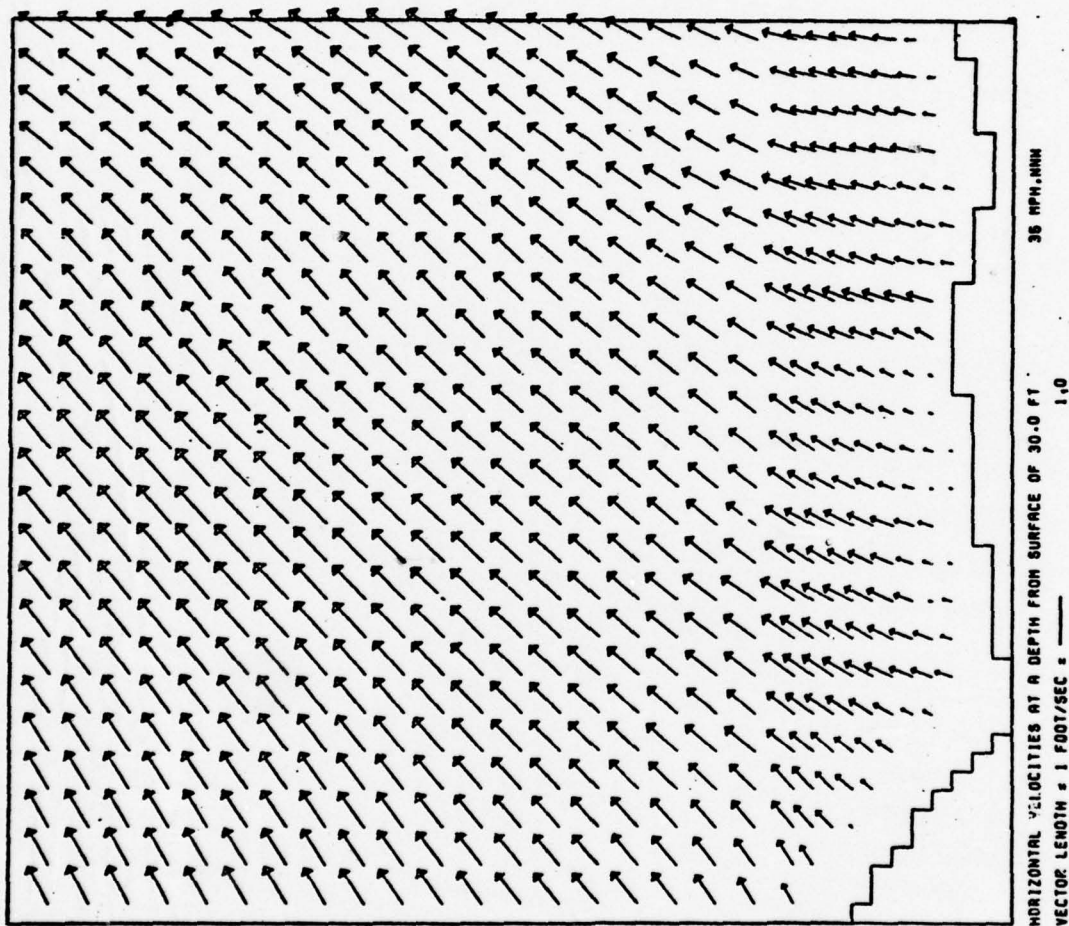
1/2"

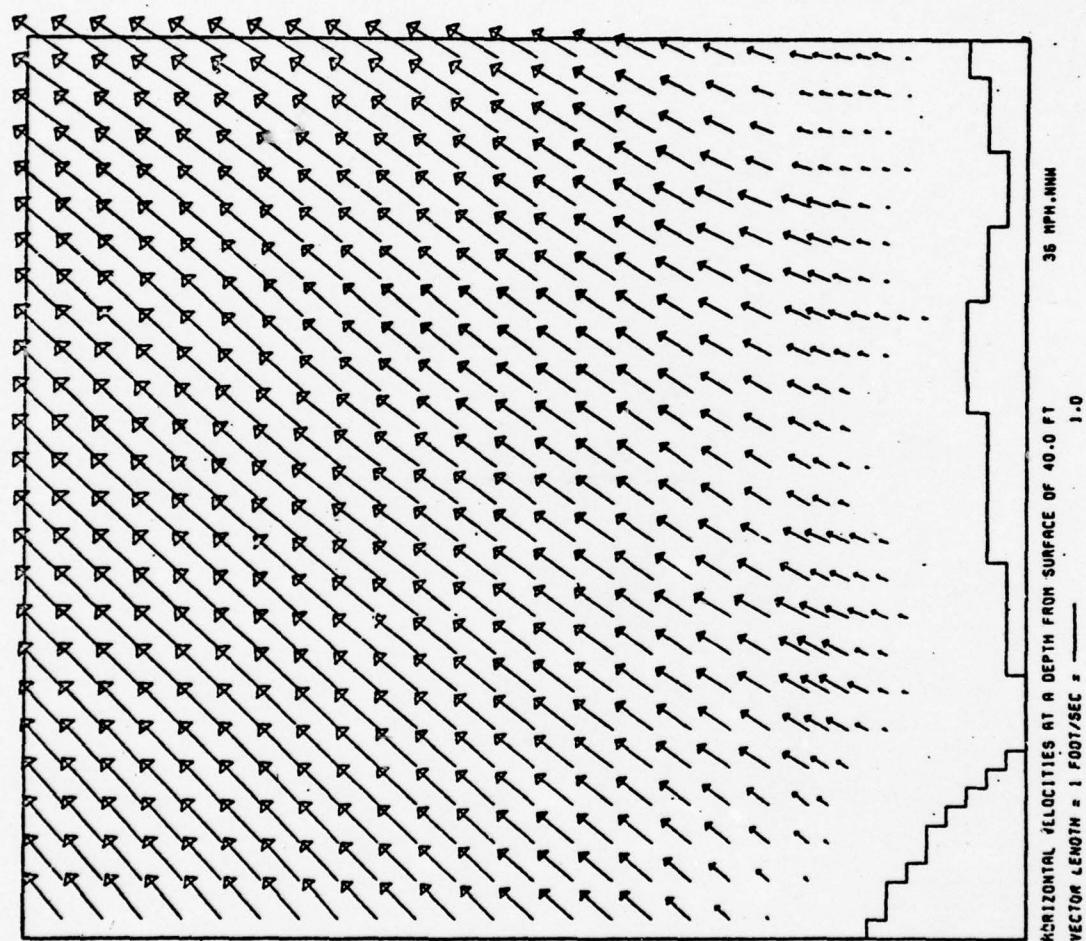
SECTIONAL VIEW OF THE PART

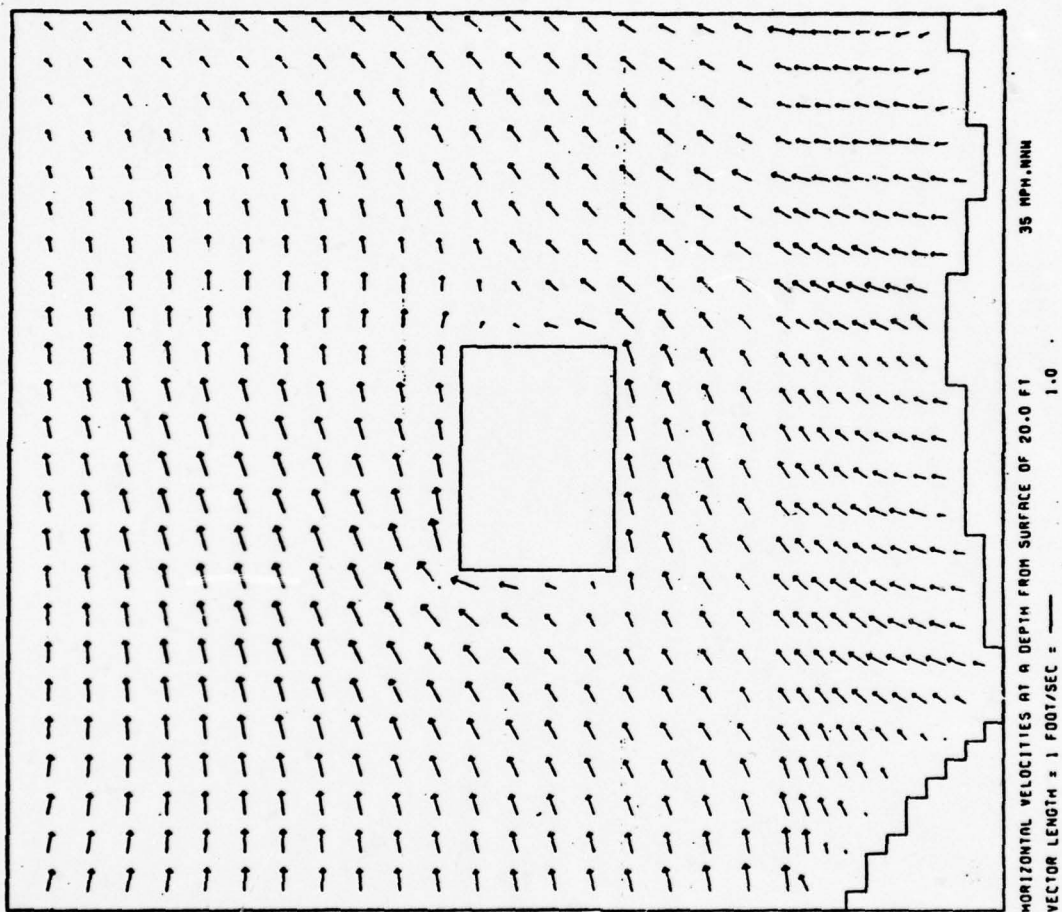
1/2"

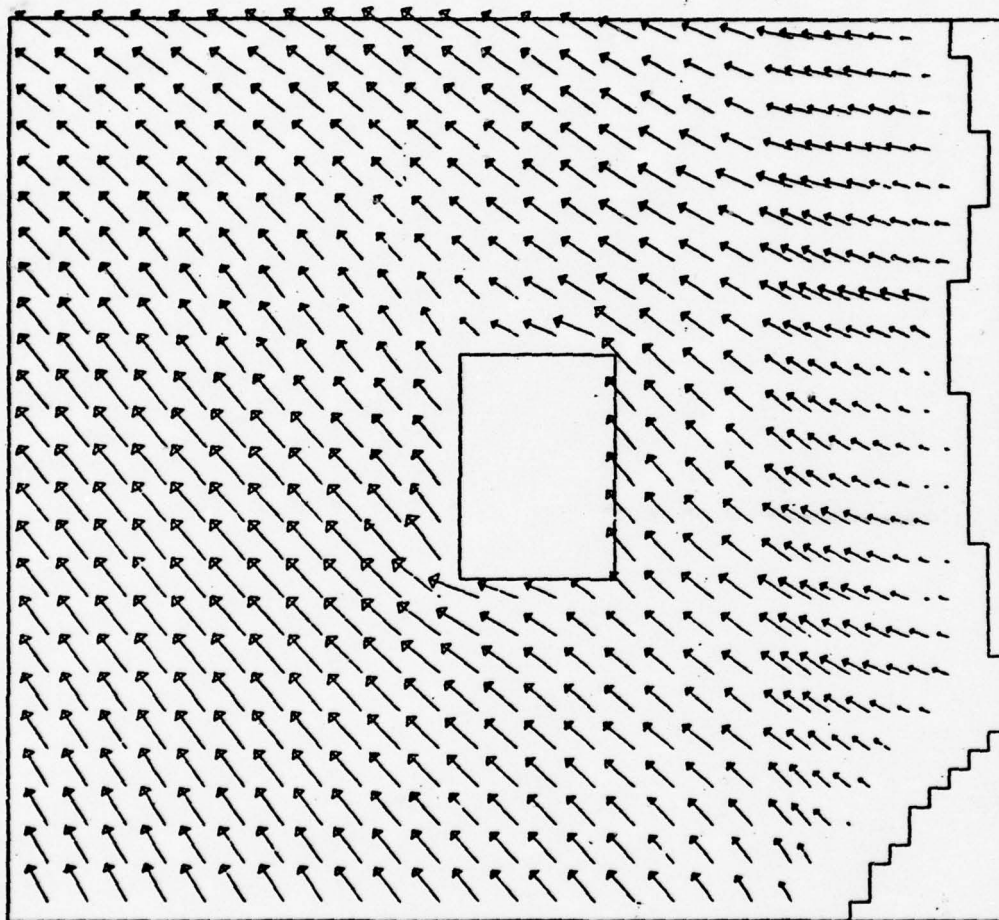
SECTIONAL VIEW OF THE PART





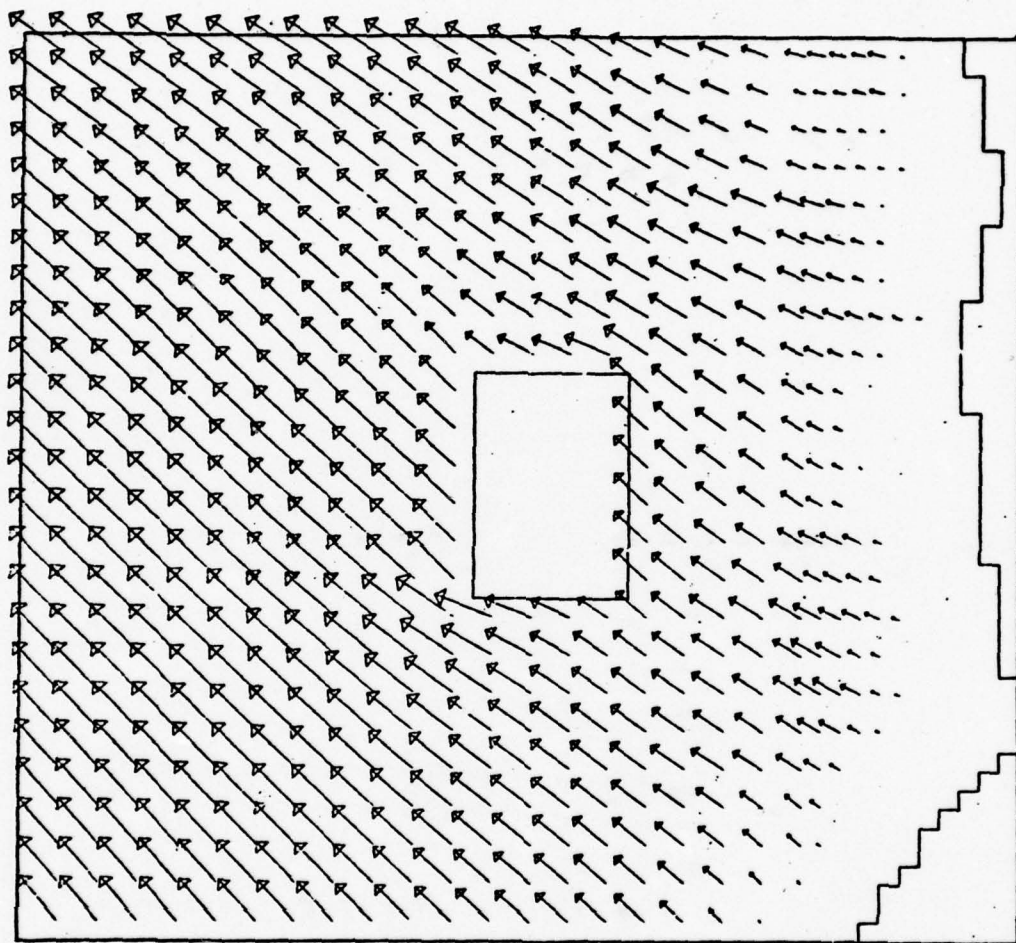






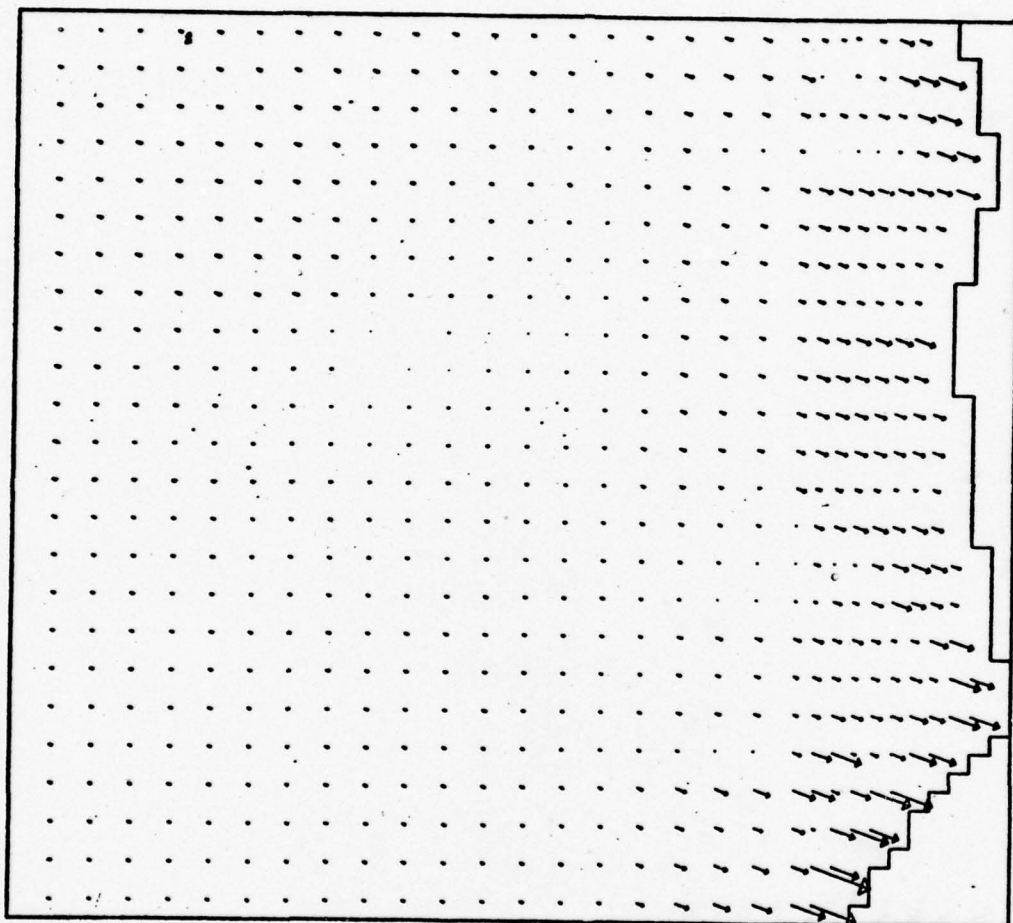
35 MPH.MMM

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 30.0 FT
VECTOR LENGTH = 1 FOOT/SEC : ——— 1.0



35 MPH/NNH

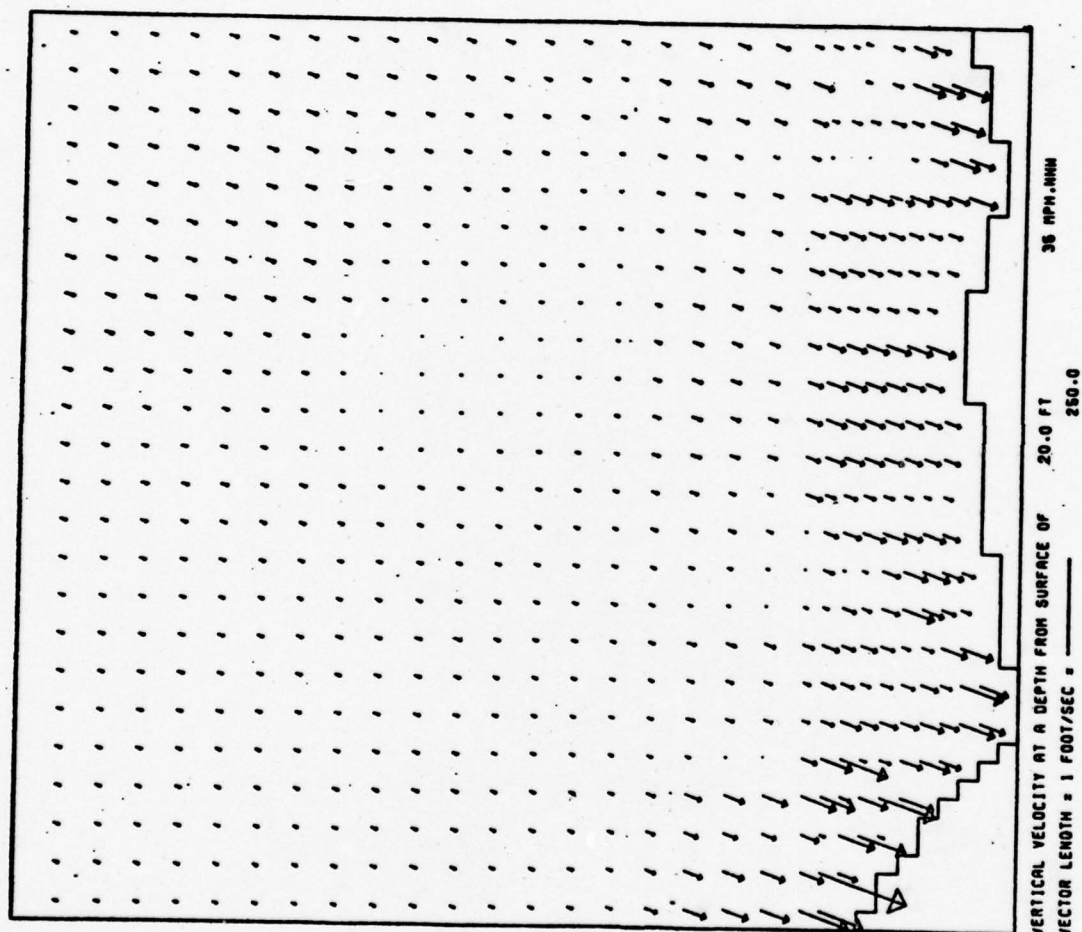
HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 40.0 FT
VECTOR LENGTH = 1 FOOT/SEC = 1.0

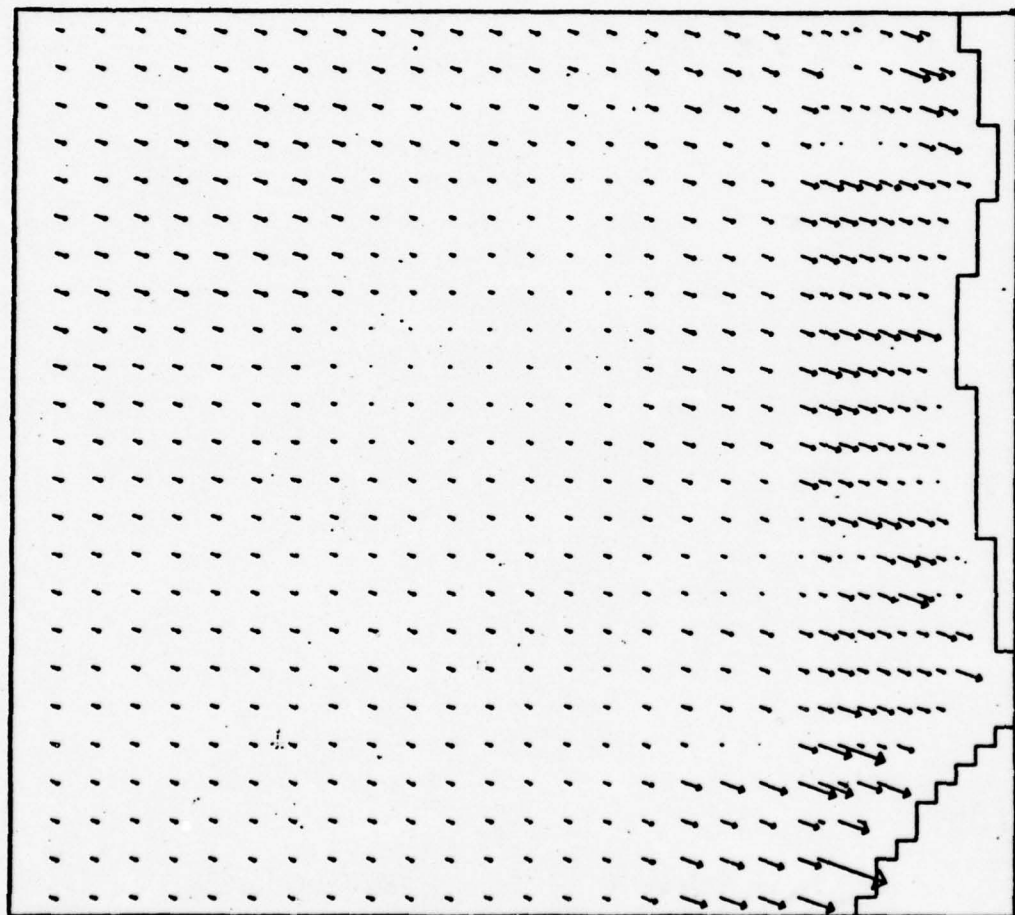


35 MPH.MMM

10.0 FT 250.0

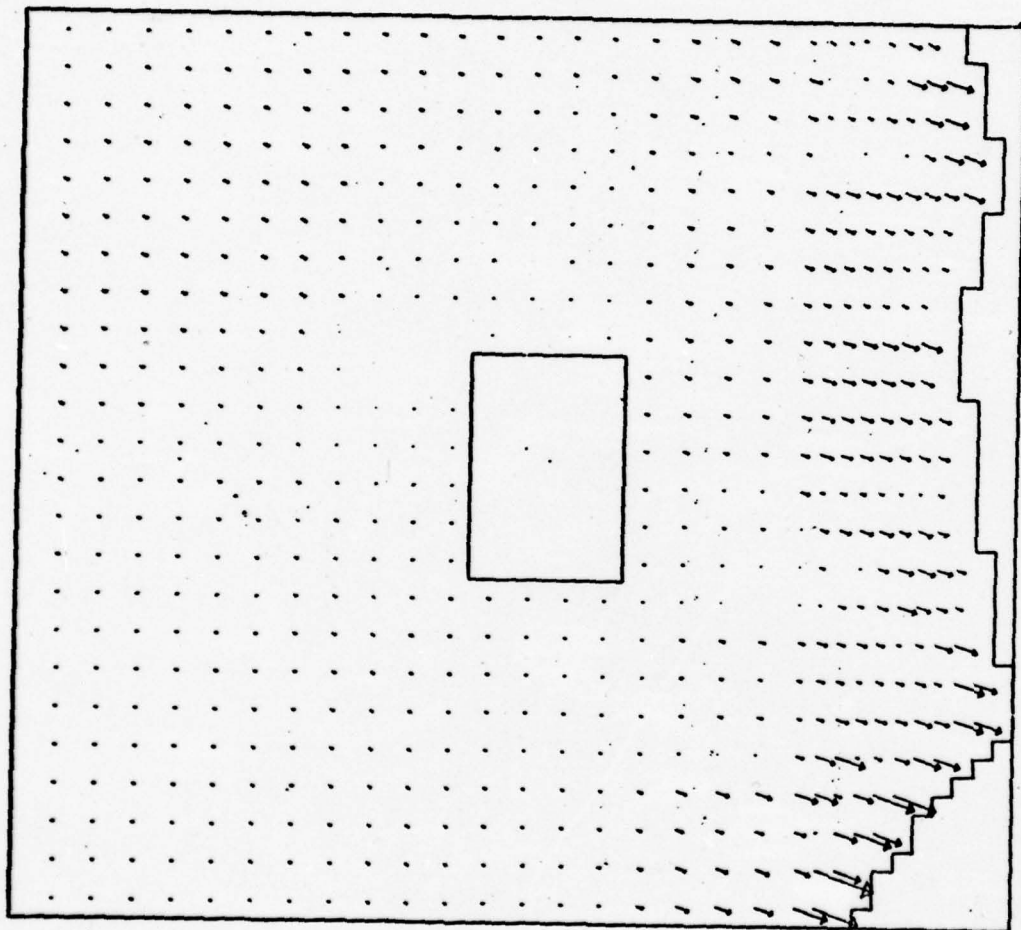
VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF
VECTOR LENGTH = 1 FOOT/SEC =





35 MPH.MMM

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF 30.0 FT
VECTOR LENGTH = 1 FOOT/SEC = 250.0



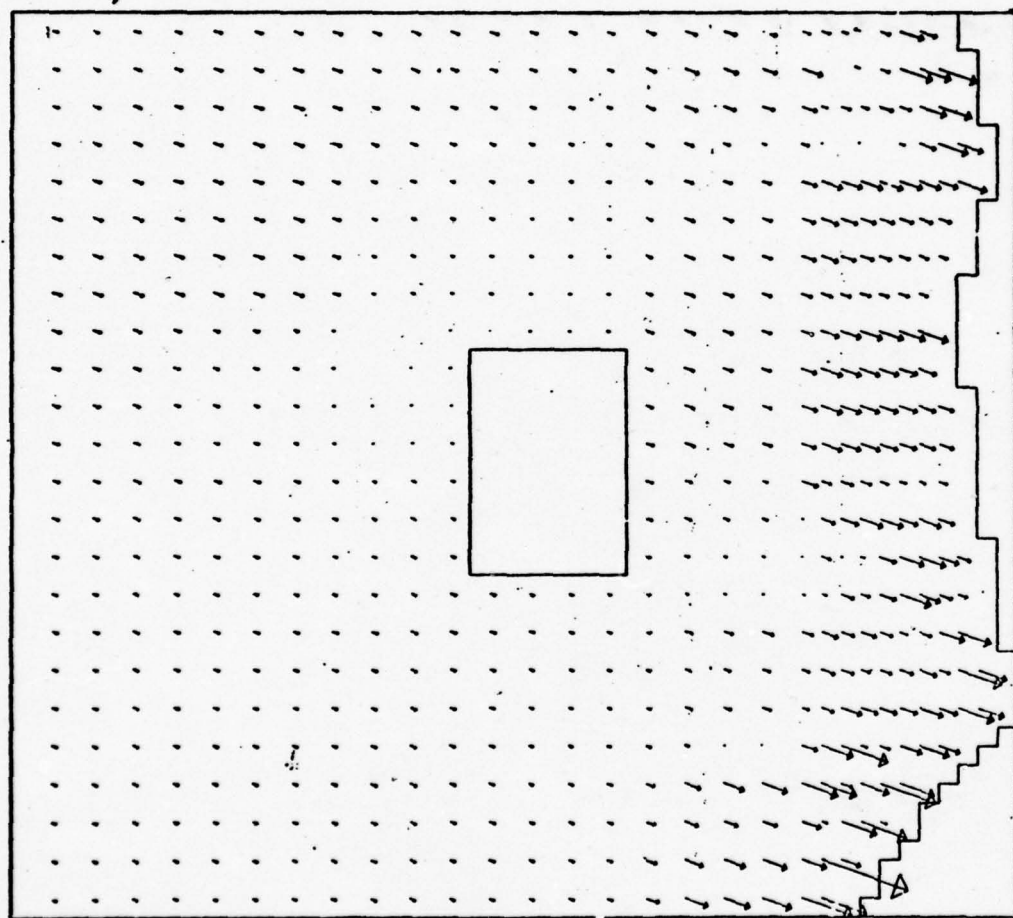
35 MPH.MMM

10.0 FT

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

250.0

VECTOR LENGTH = 1 FOOT/SEC =



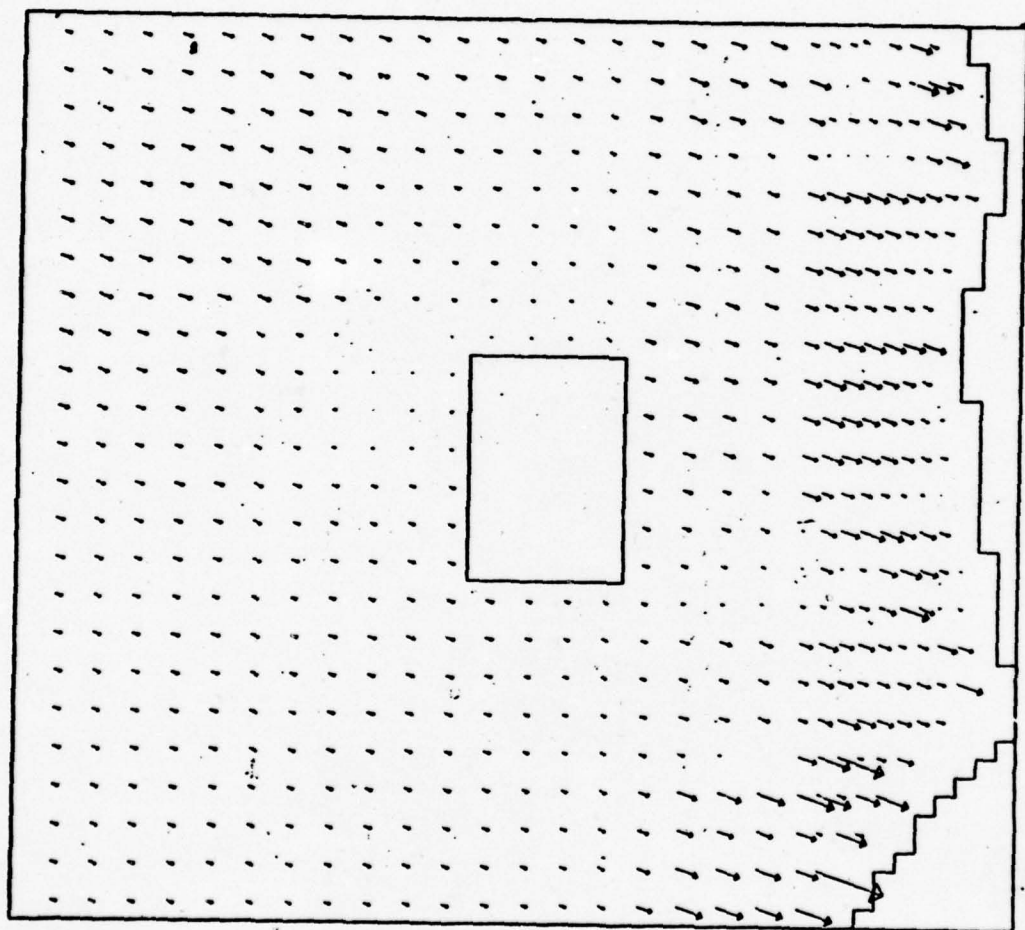
35 MPH/MMH

20.0 FT

250.0

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

VECTOR LENGTH = 1 FOOT/SEC =



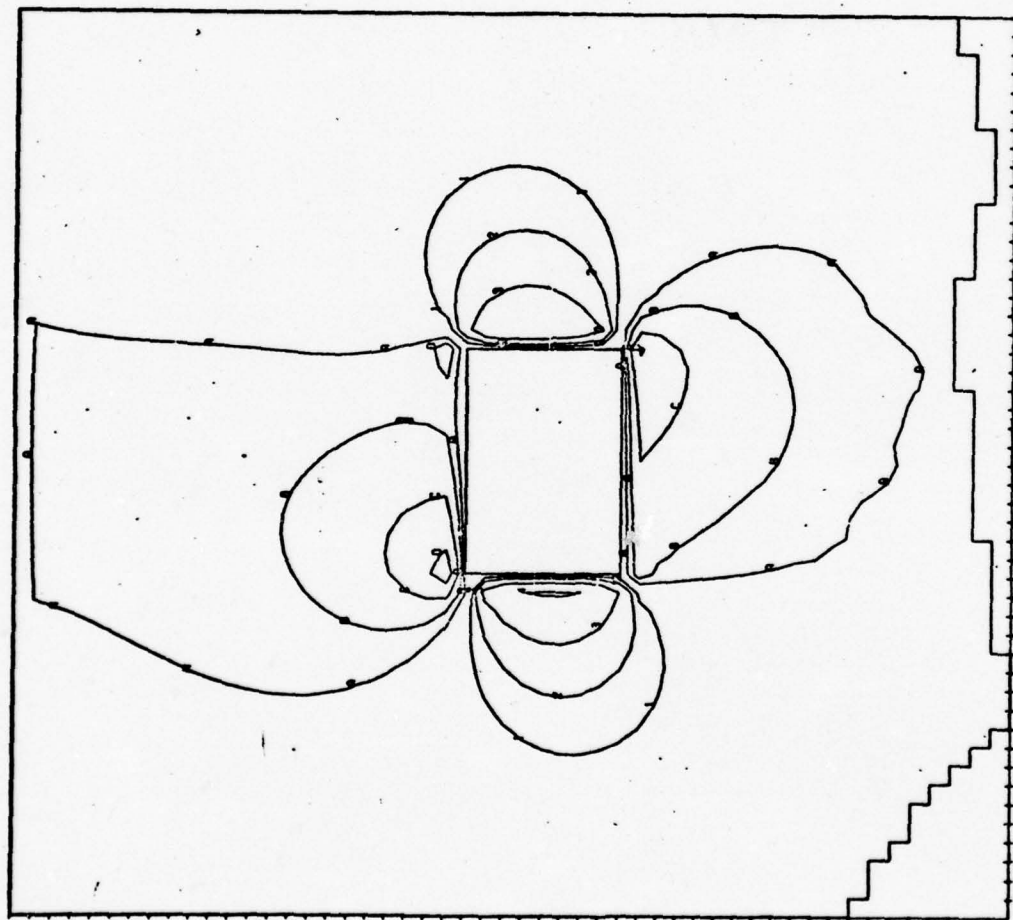
35 RPM, MIN

30.0 FT

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

250.0

VECTOR LENGTH = 1 FOOT/SEC =

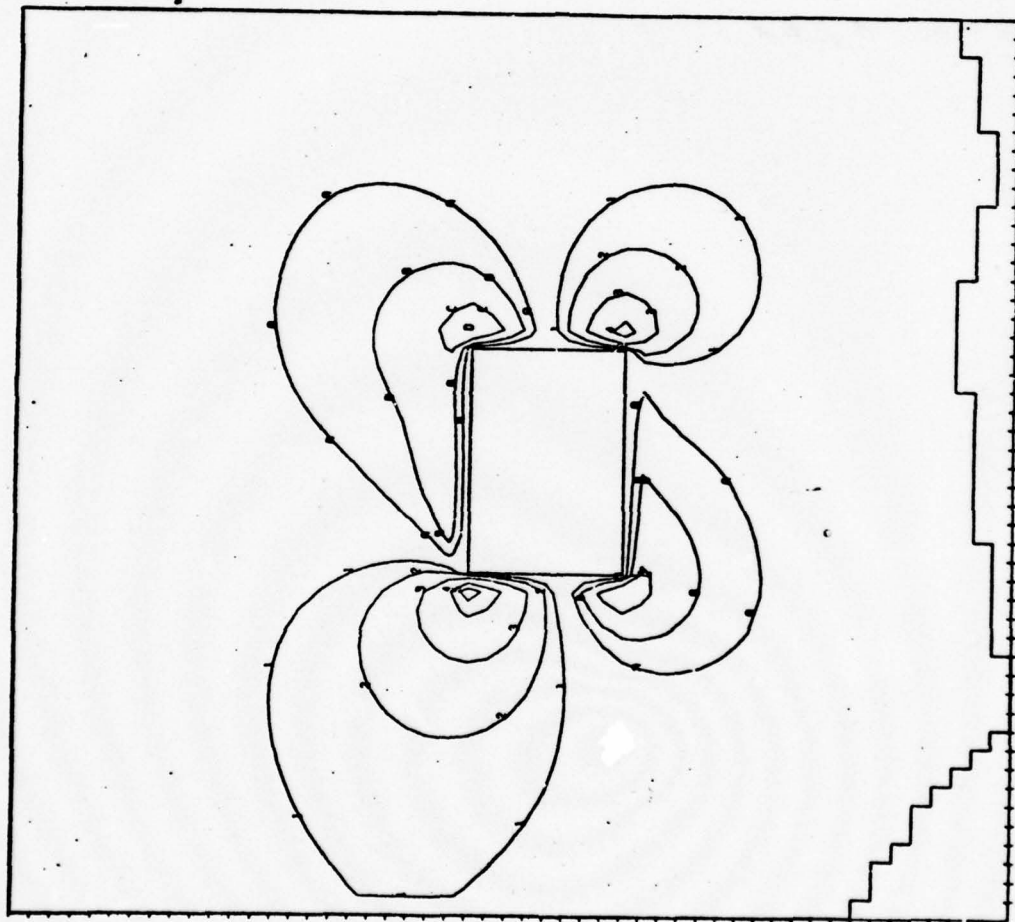


SYMBOLS
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

CONTOUR LEVELS
 0.050
 0.100
 0.200
 0.400
 0.600
 0.800
 1.000
 1.500
 2.000
 -0.050
 -0.100
 -0.200
 -0.400
 -0.600
 -0.800
 -1.000
 -1.500
 -2.000

CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

U.D=0.H=35NNH

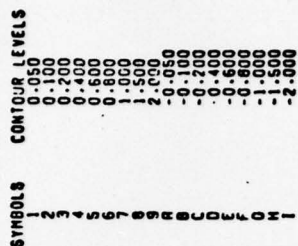


SYMBOLS
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

CONTOUR LEVELS
0.050
0.100
0.200
0.400
0.600
0.800
1.000
1.500
2.000
-0.050
-0.100
-0.200
-0.400
-0.600
-0.800
-1.000
-1.500
-2.000

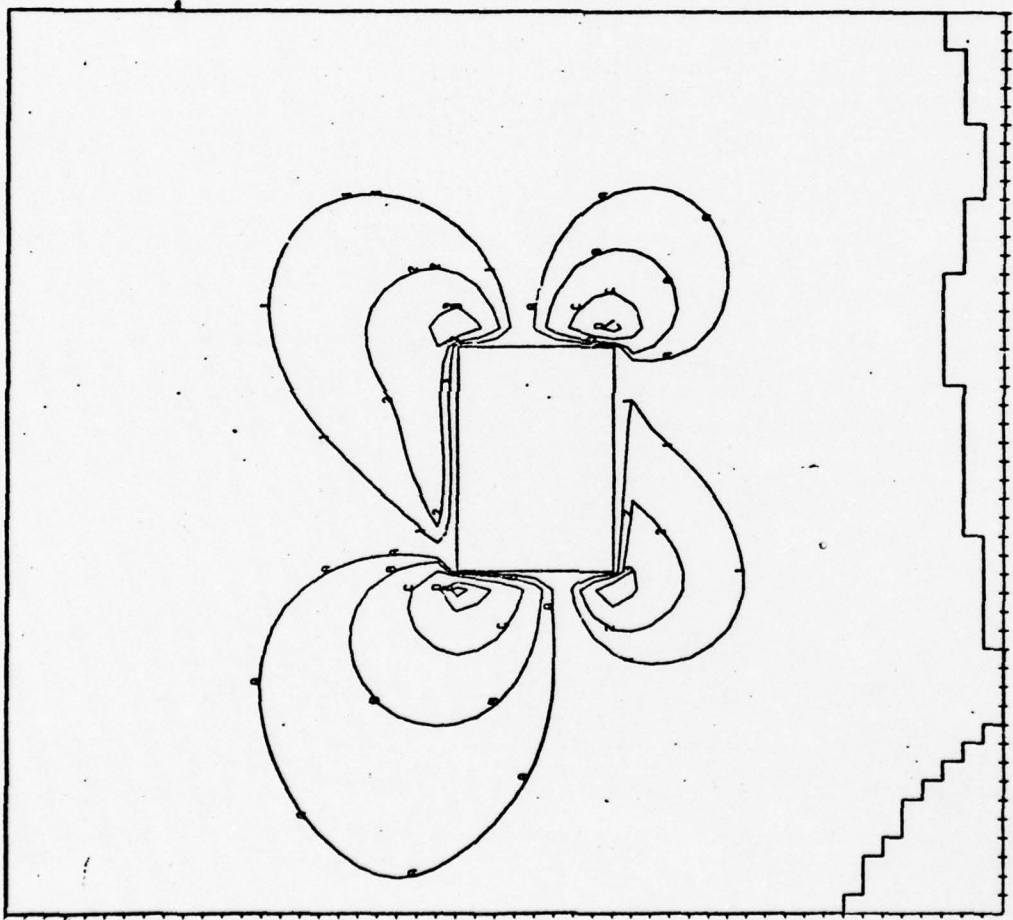
CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

M.D=0.4=35NNH



CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

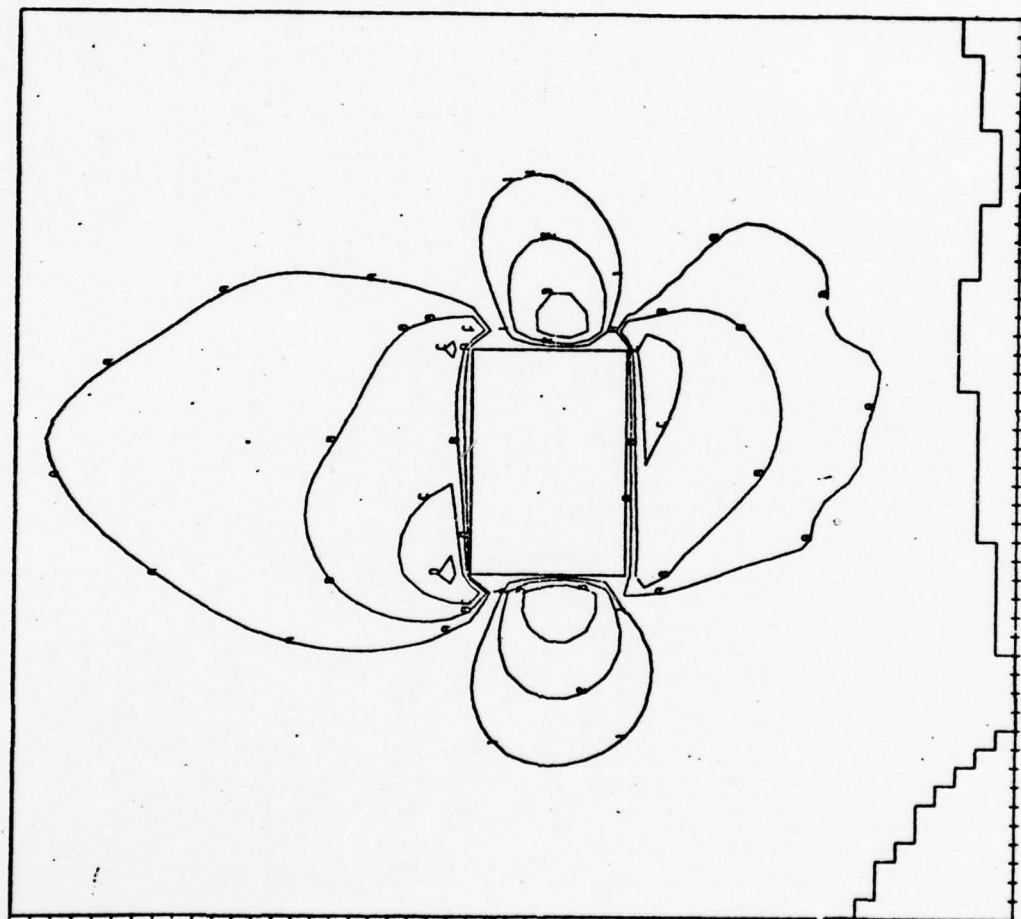
U.O=15.H=35NNH



SYMBOLS
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 75
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 77
 78
 79
 80
 81
 82
 83
 84
 85
 86
 87
 88
 89
 90
 91
 92
 93
 94
 95
 96
 97
 98
 99
 100

CONTOUR LEVELS
 0.050
 0.100
 0.200
 0.400
 0.600
 0.800
 1.000
 1.500
 2.000
 -0.050
 -0.100
 -0.200
 -0.400
 -0.600
 -0.800
 -1.000
 -1.500
 -2.000

CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE
 V.D=15.H=35NNW

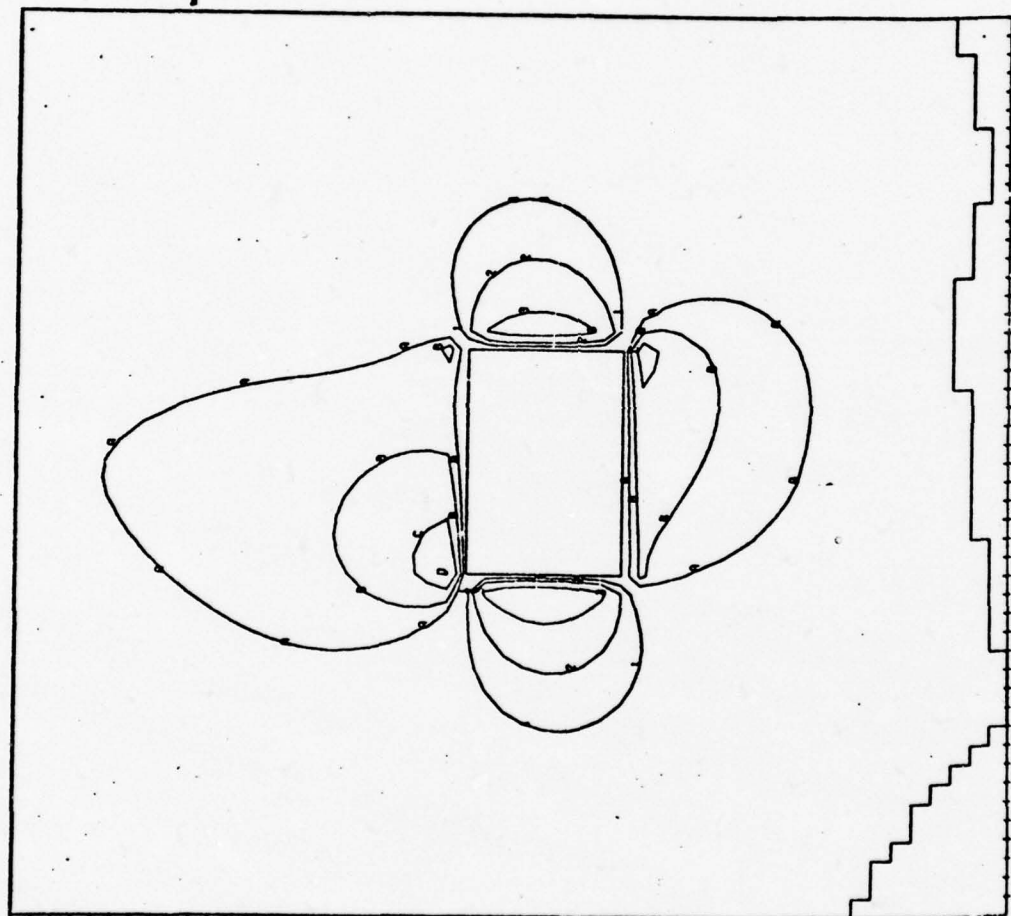


SYMBOLS
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

CONTOUR LEVELS
0.050
0.100
0.200
0.400
0.600
0.800
1.000
1.500
2.000
-0.050
-0.100
-0.200
-0.400
-0.600
-0.800
-1.000
-1.500
-2.000

CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

M.O=15.M=35NNH



CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

CONTOUR LEVELS

0.050
0.100
0.200
0.400
0.600
0.800
1.000
1.500
2.000
-0.050
-0.100
-0.200
-0.400
-0.600
-0.800
-1.000
-1.500
-2.000

SYMBOLS

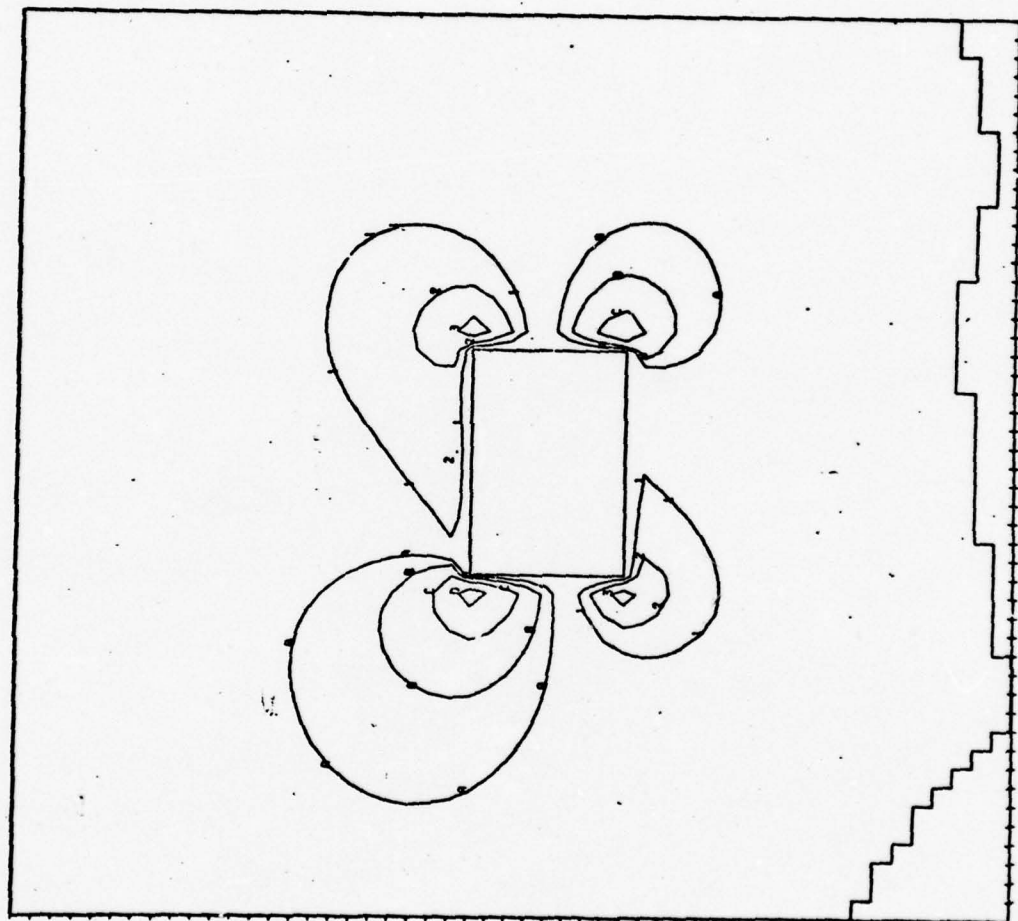
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

U.S. AIR FORCE

SYMBOLS

CONTOUR LEVELS

0.050
0.100
0.150
0.200
0.250
0.300
0.350
0.400
0.450
0.500
0.550
0.600
0.650
0.700
0.750
0.800
0.850
0.900
0.950
1.000
1.050
1.100
1.150
1.200
1.250
1.300
1.350
1.400
1.450
1.500
1.550
1.600
1.650
1.700
1.750
1.800
1.850
1.900
1.950
2.000



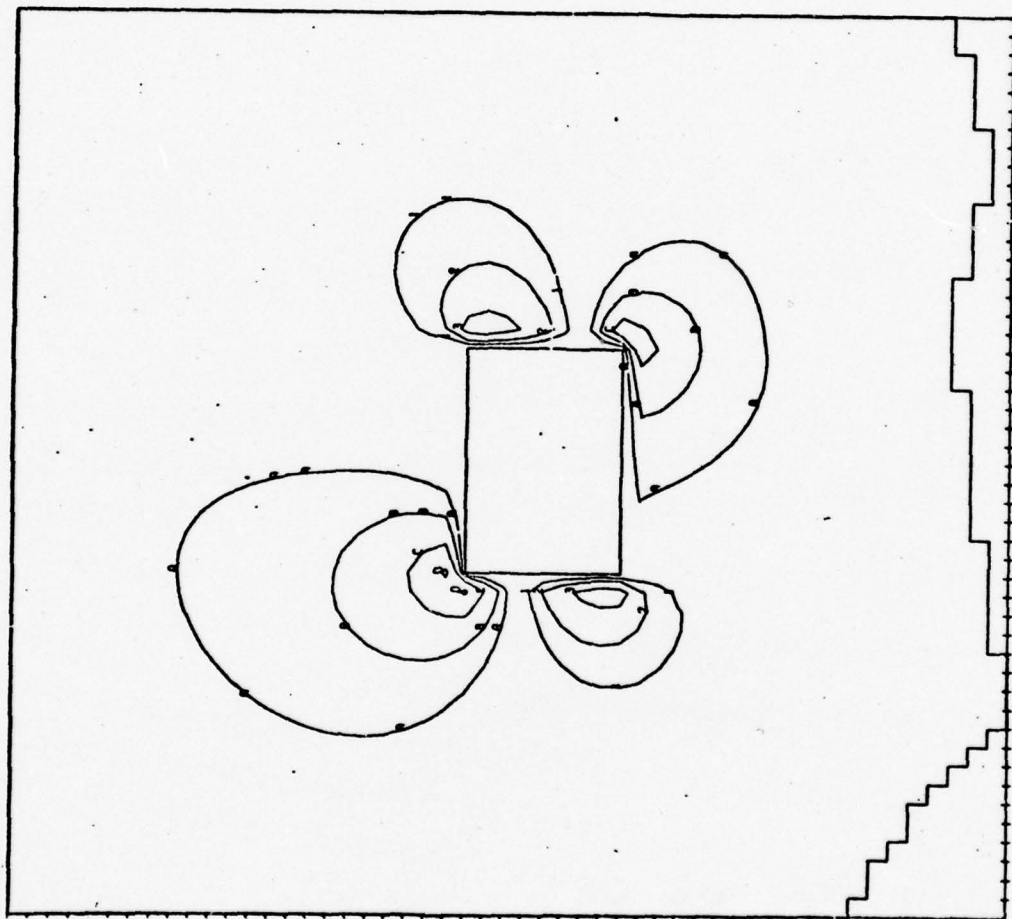
CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

V.D=30. H=35NNH

SYMBOLS

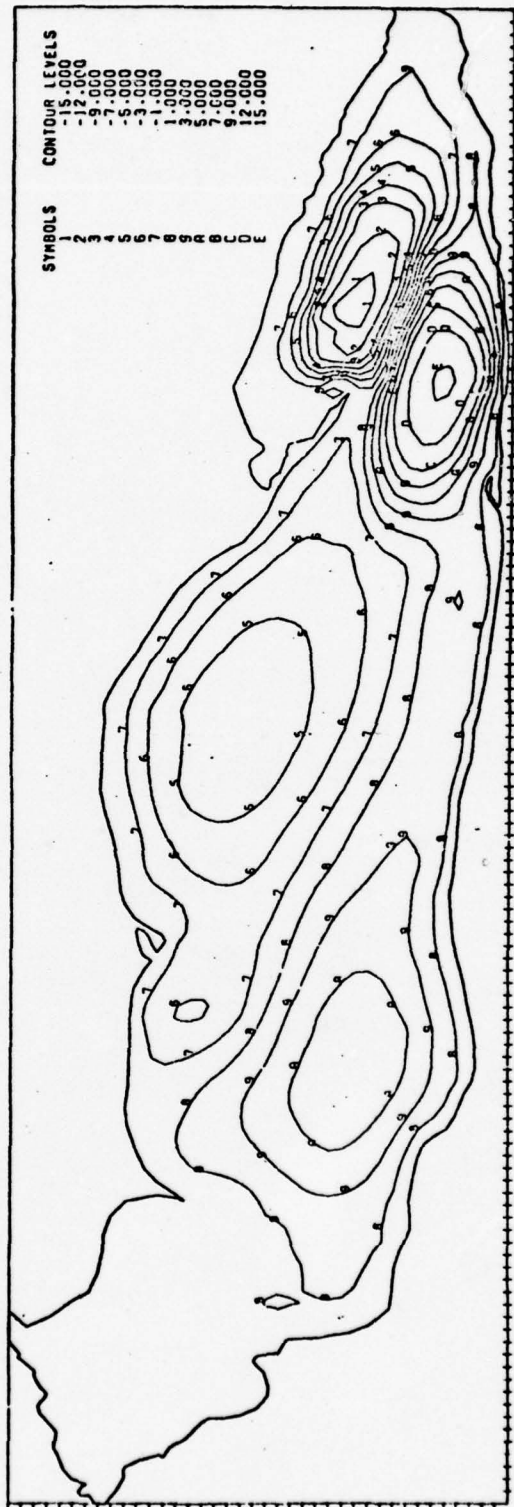
CONTOUR LEVELS

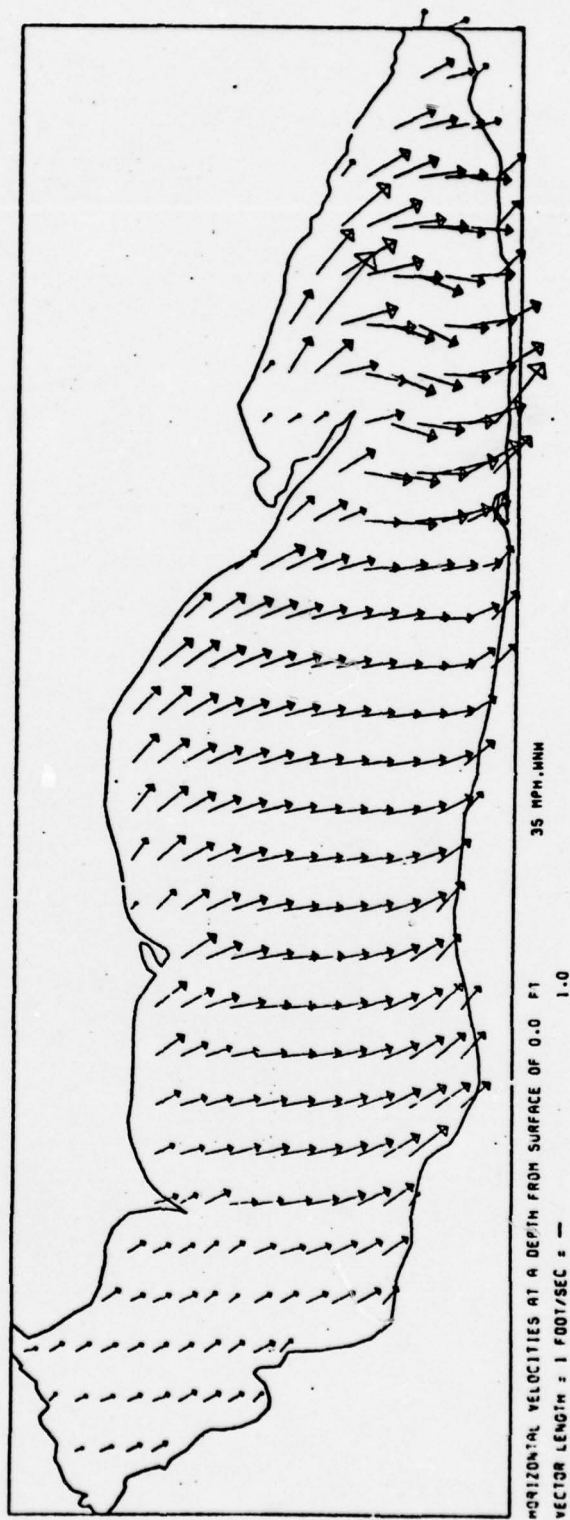
0.050
0.100
0.200
0.400
0.600
0.800
1.000
1.200
1.400
1.600
1.800
2.000
-0.050
-0.100
-0.200
-0.400
-0.600
-0.800
-1.000
-1.200
-1.400
-1.600
-1.800
-2.000

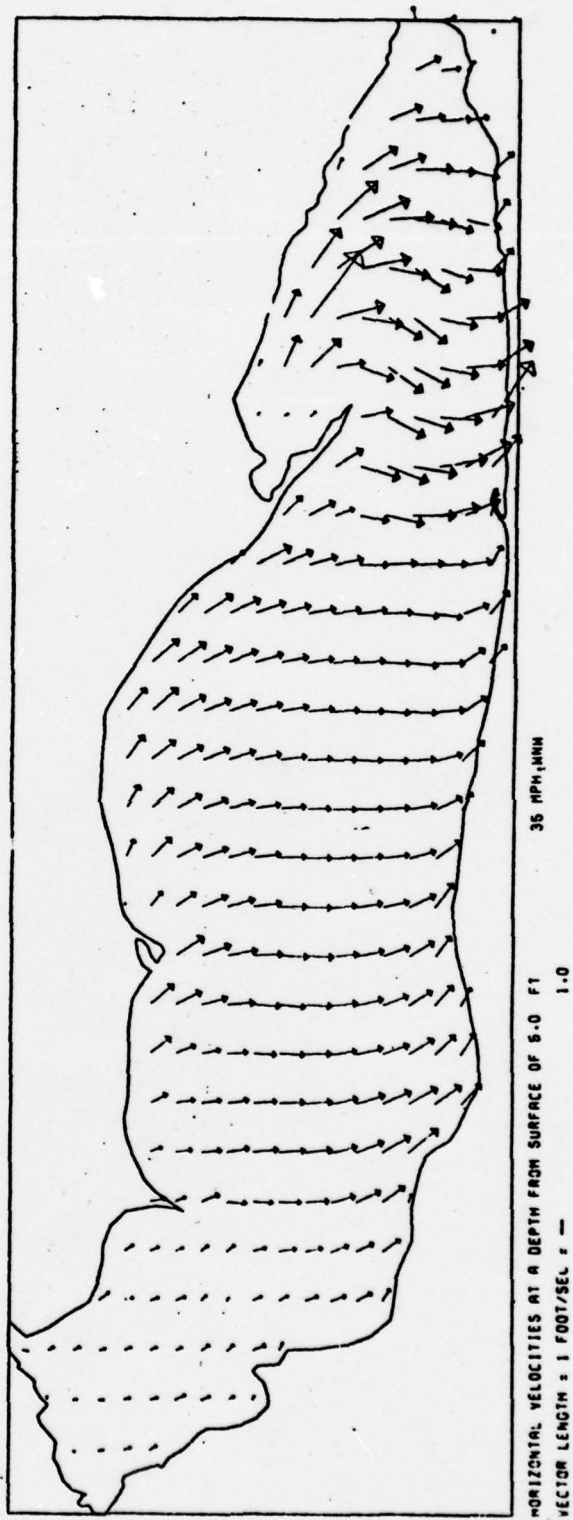


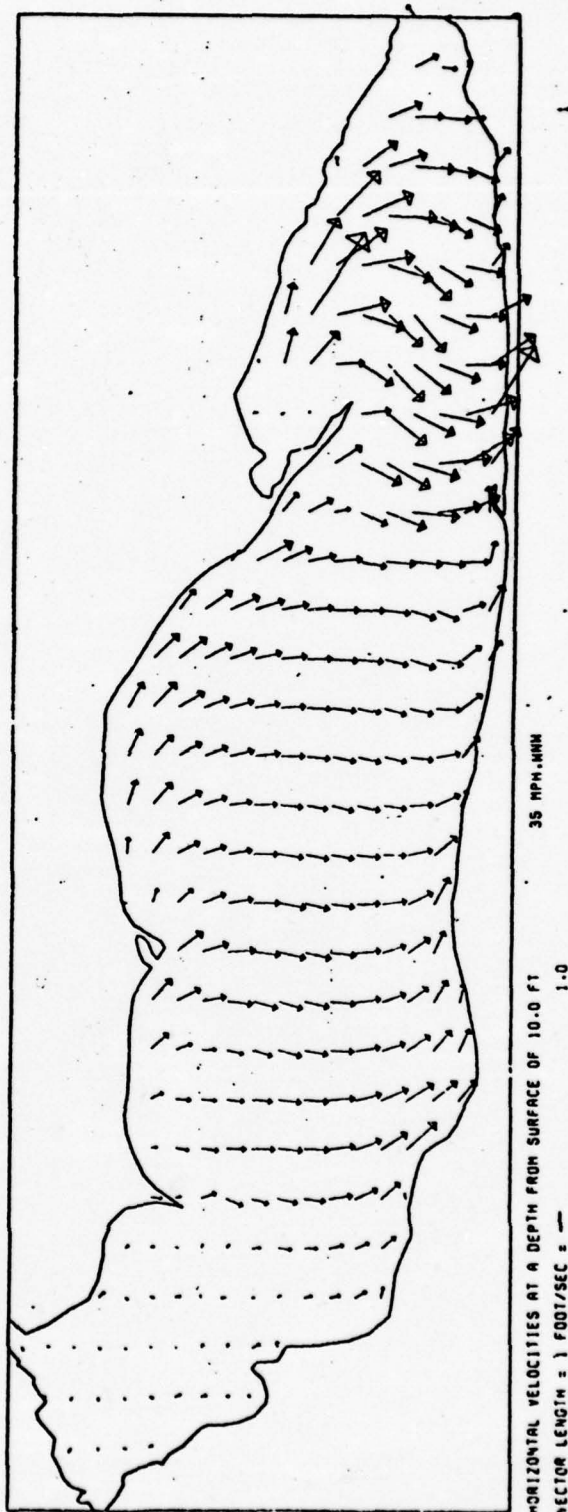
CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

M.D=30.H=35NNH







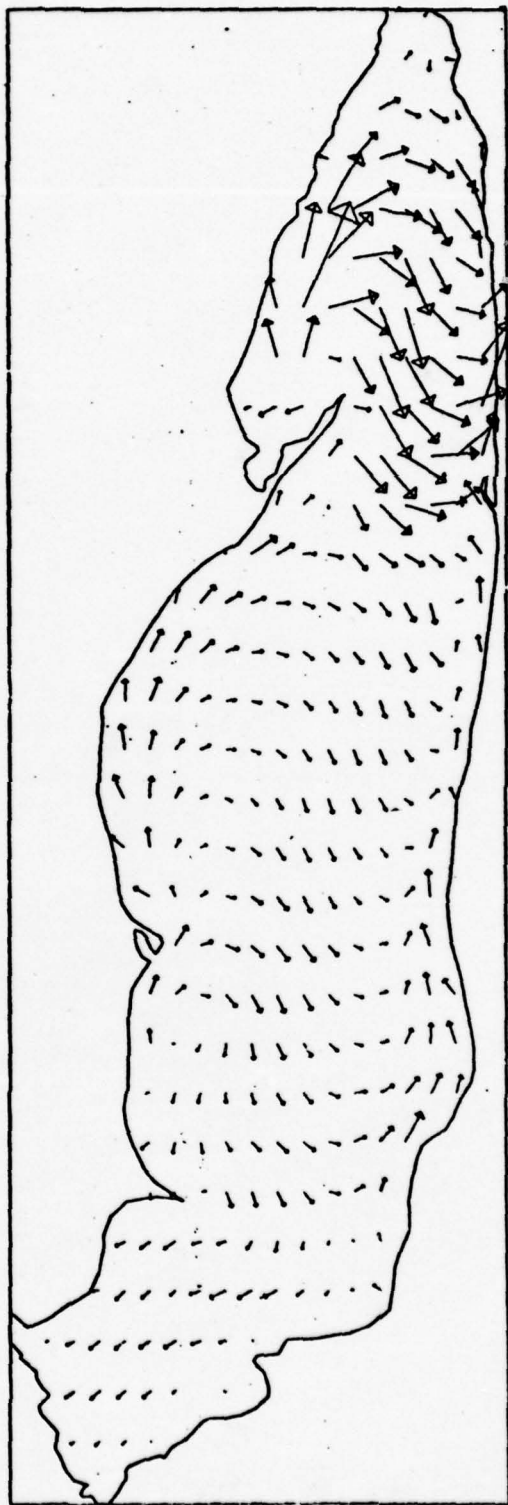


35 RPM.NMM

1.0

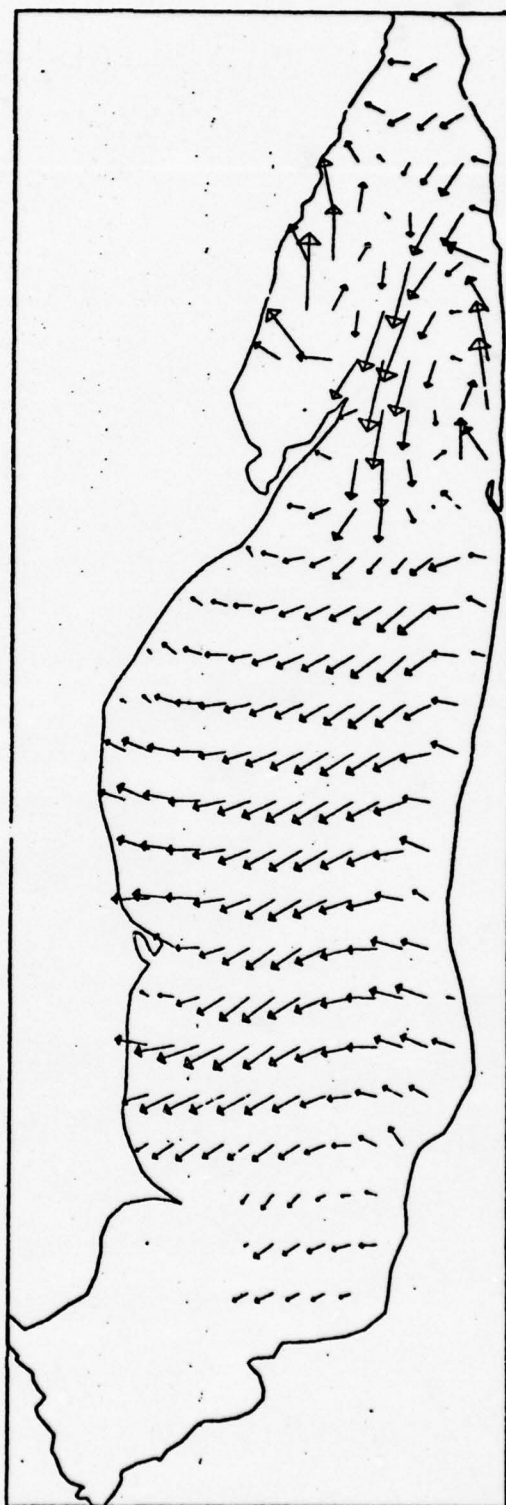
HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 10.0 FT

VECTOR LENGTH = 1 FOOT/SEC = —



35 MPH/MM

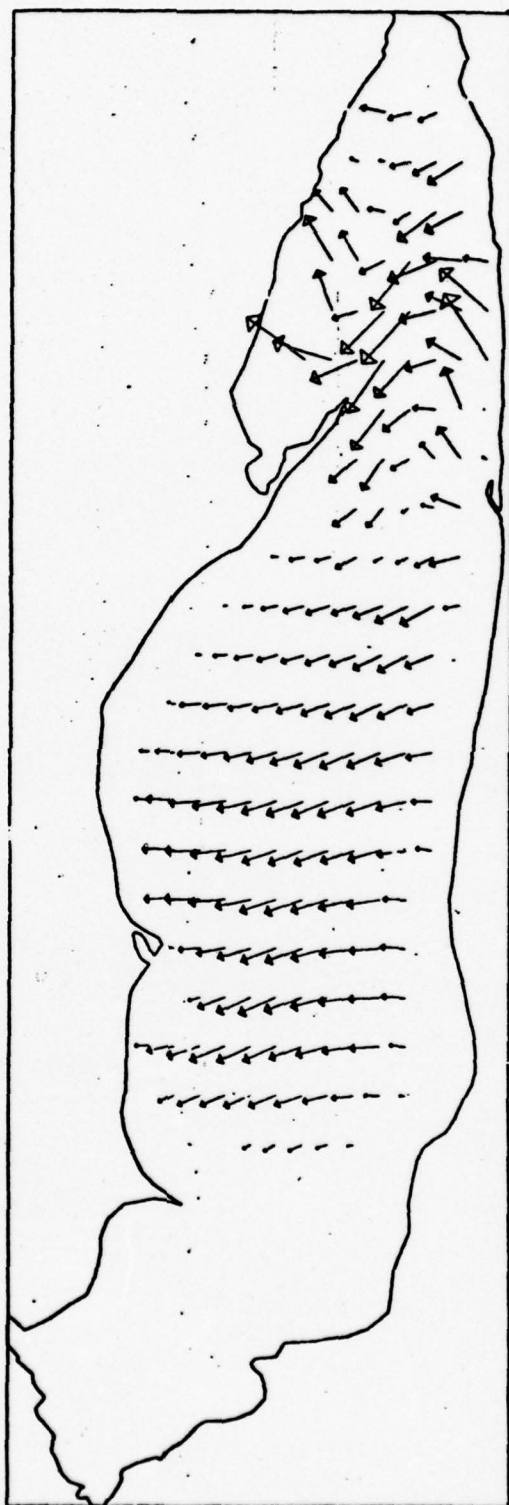
HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 20.0 FT
VECTOR LENGTH = 1 FOOT/SEC = — 1.0



35 NPM-MNH

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 40.0 FT

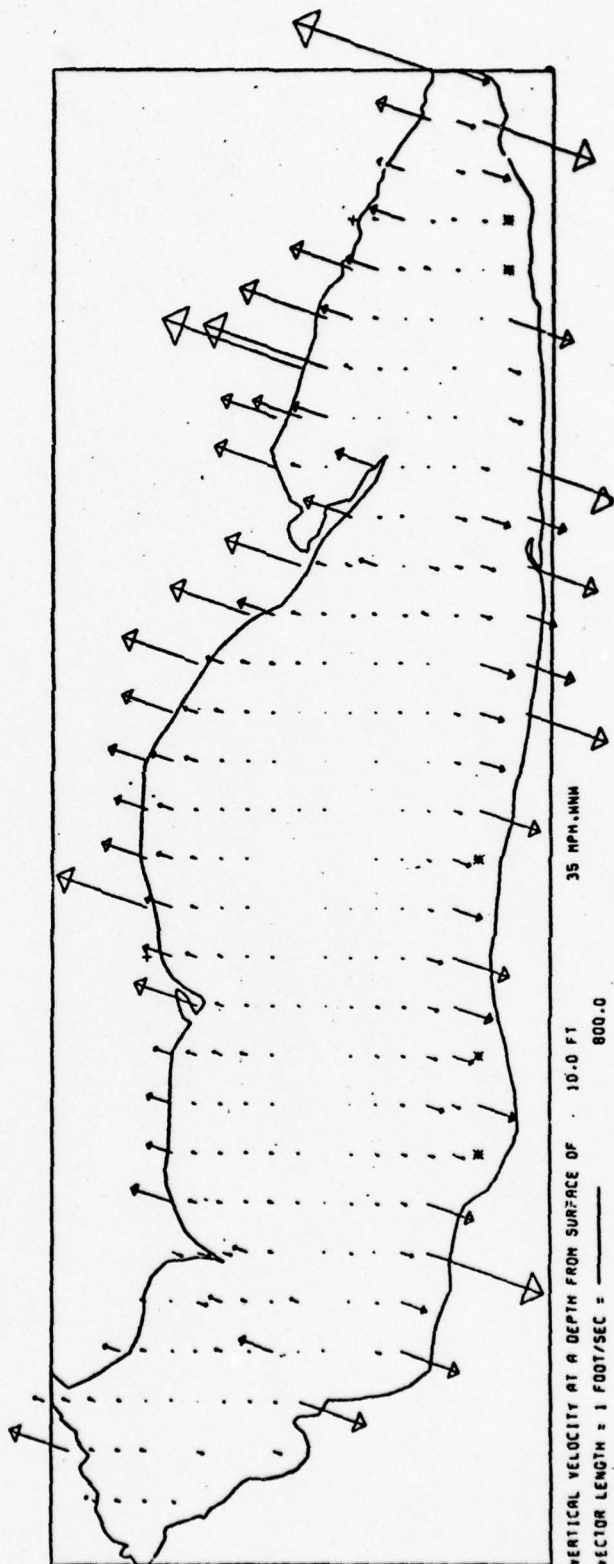
VECTOR LENGTH = 1 FOOT/SEC = 1.0

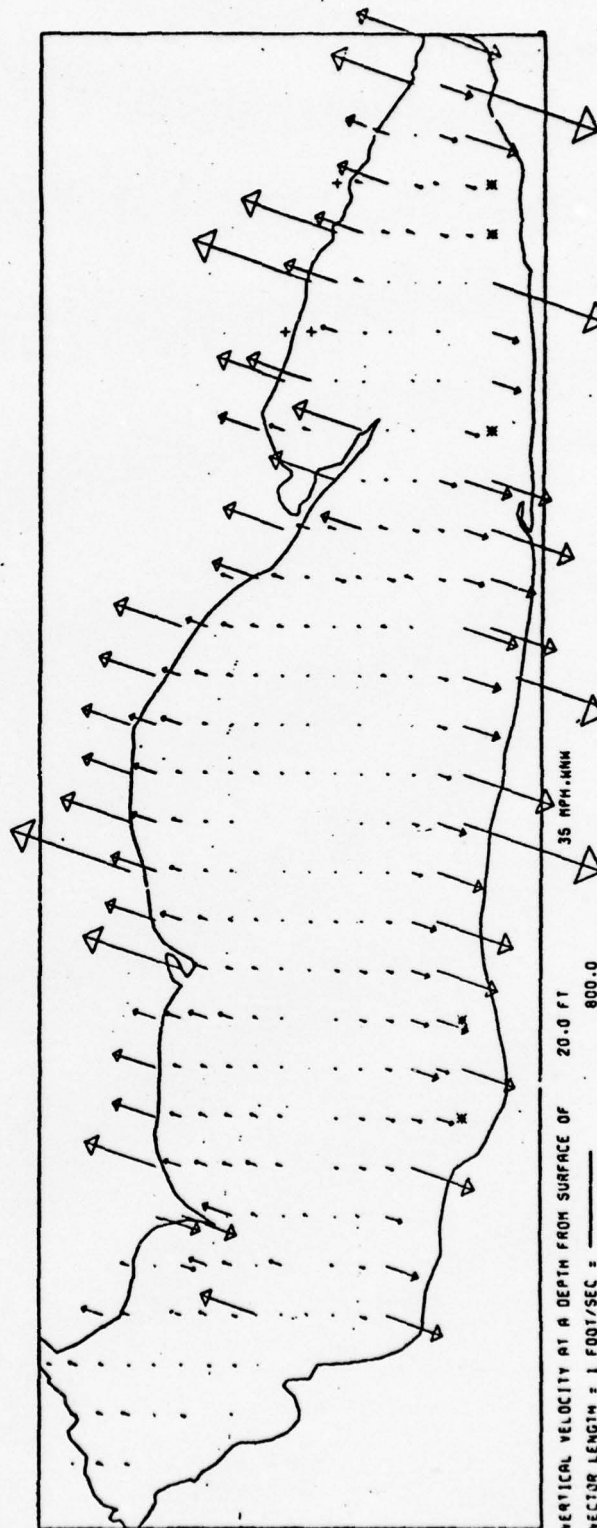


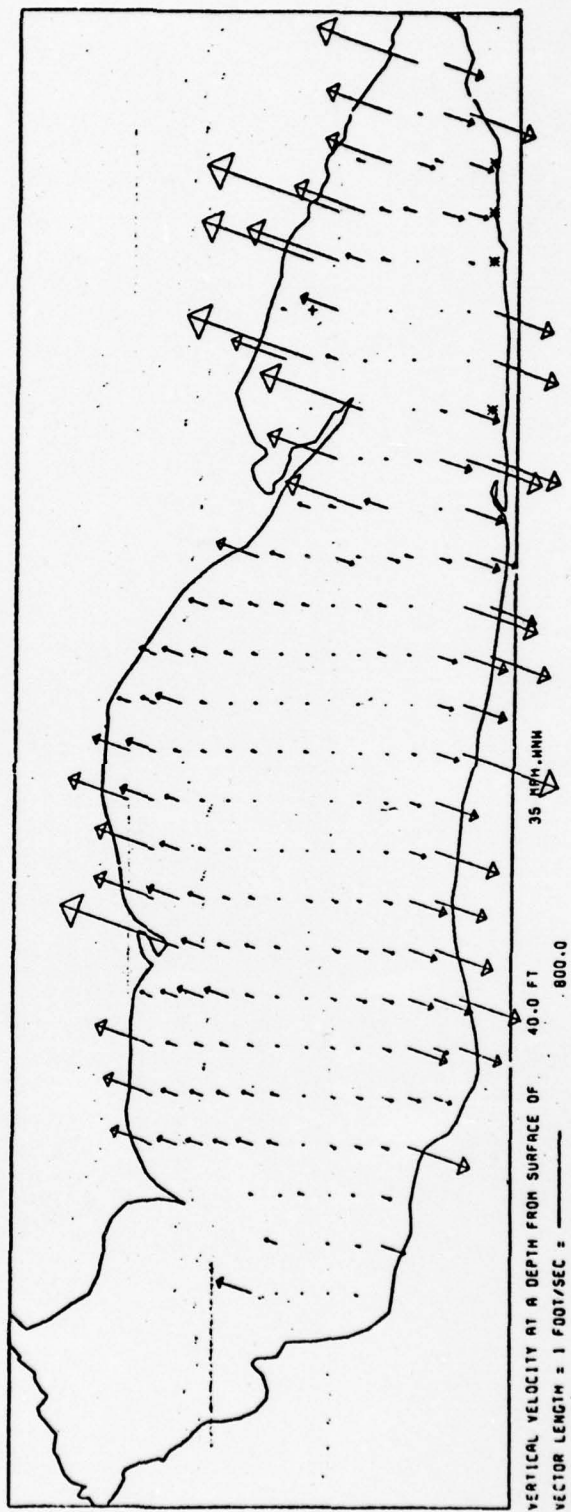
35 NPM·NNH

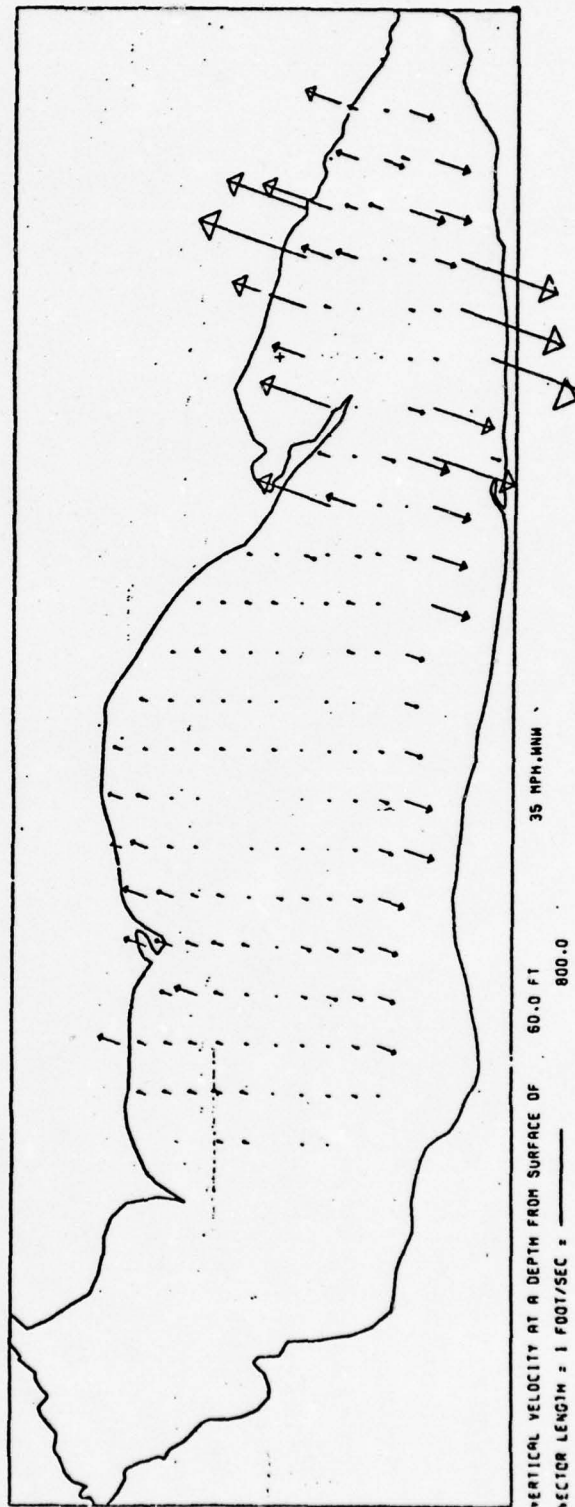
HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 60.0 FT

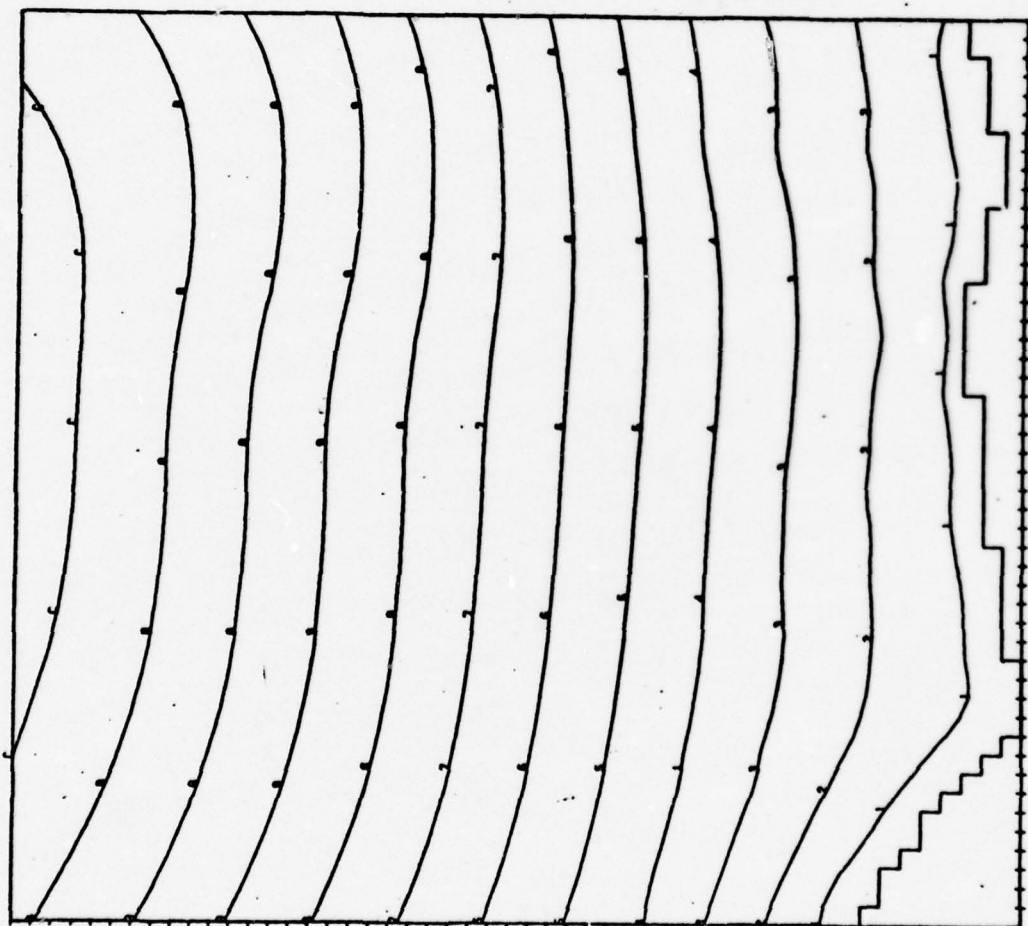
VECTOR LENGTH = 1 FOOT/SEC : ——— 1.0





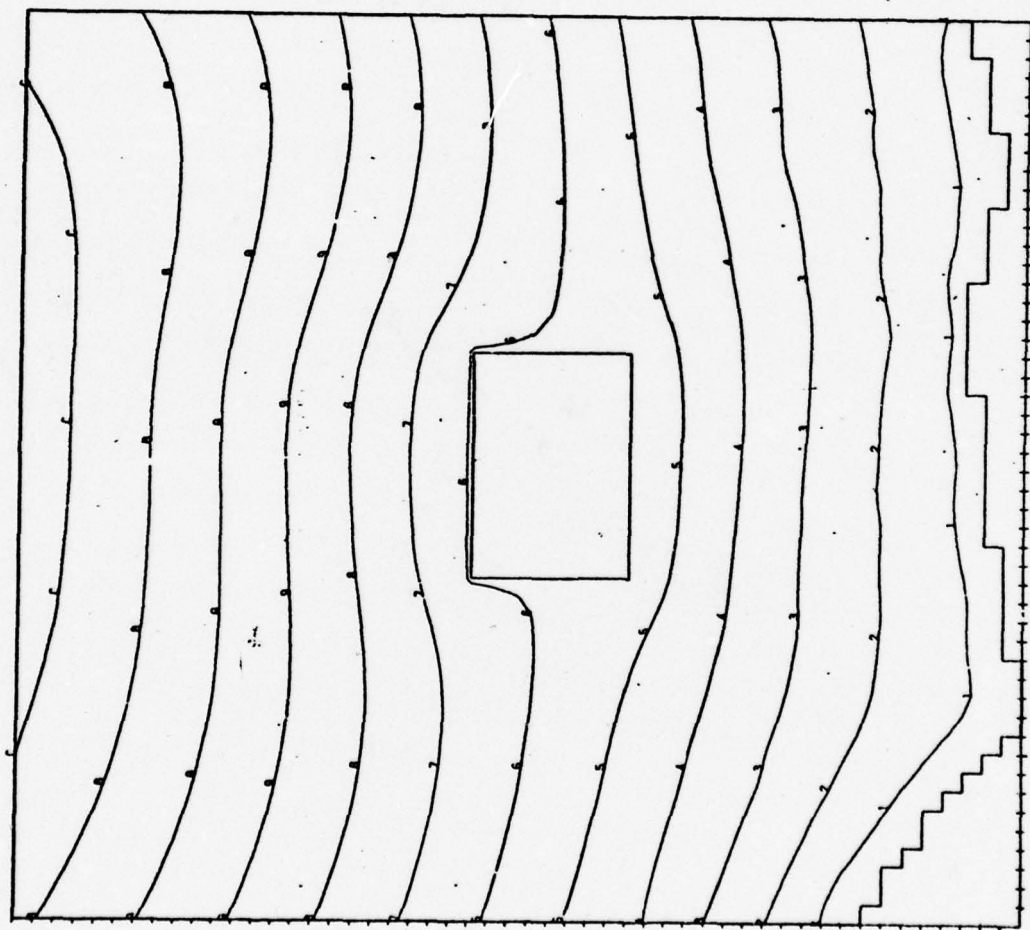






SYMBOLS
 1 2 3 4 5 6 7 8 9 10 11
 CONTOUR LEVELS
 0.100
 0.600
 1.600
 2.600
 3.600
 4.600
 5.600
 6.600

CONTOURS OF STREAM FUNCTION FOR LAKE ERIE -- NEARSHORE
 WA-35MPH-MNH

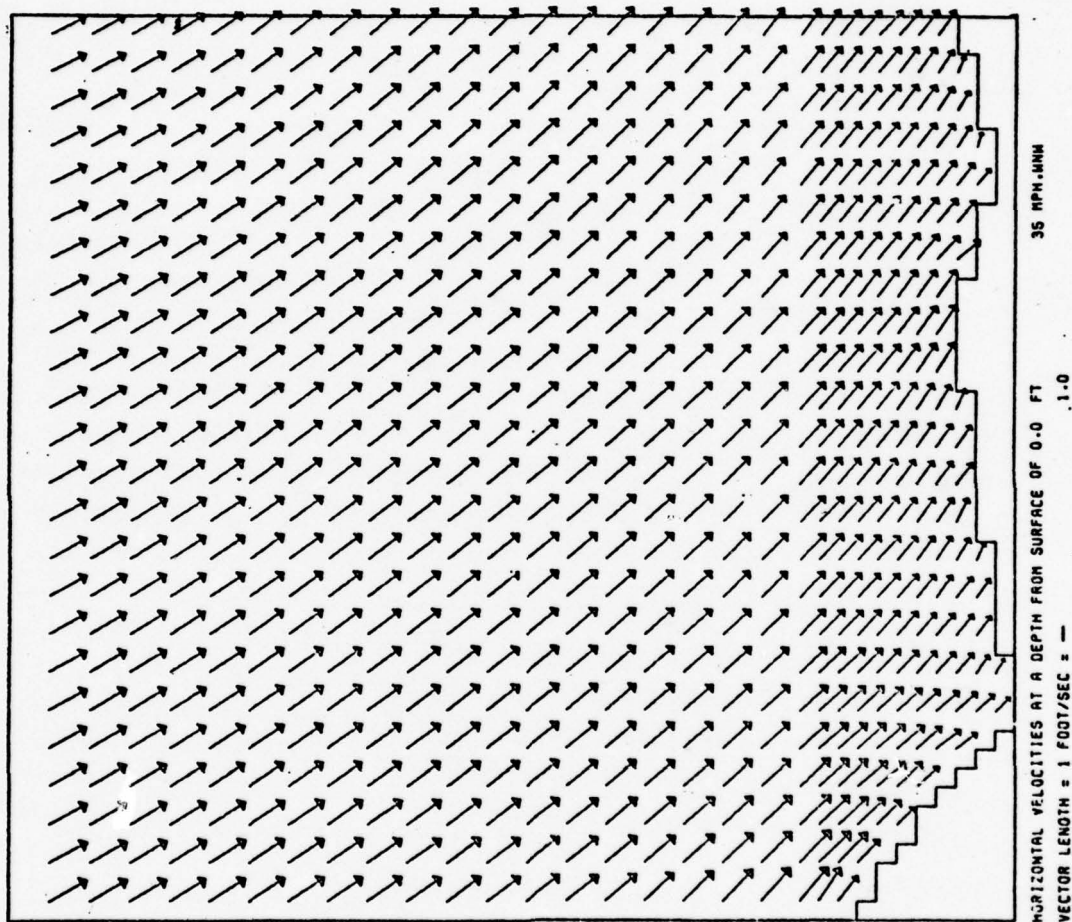


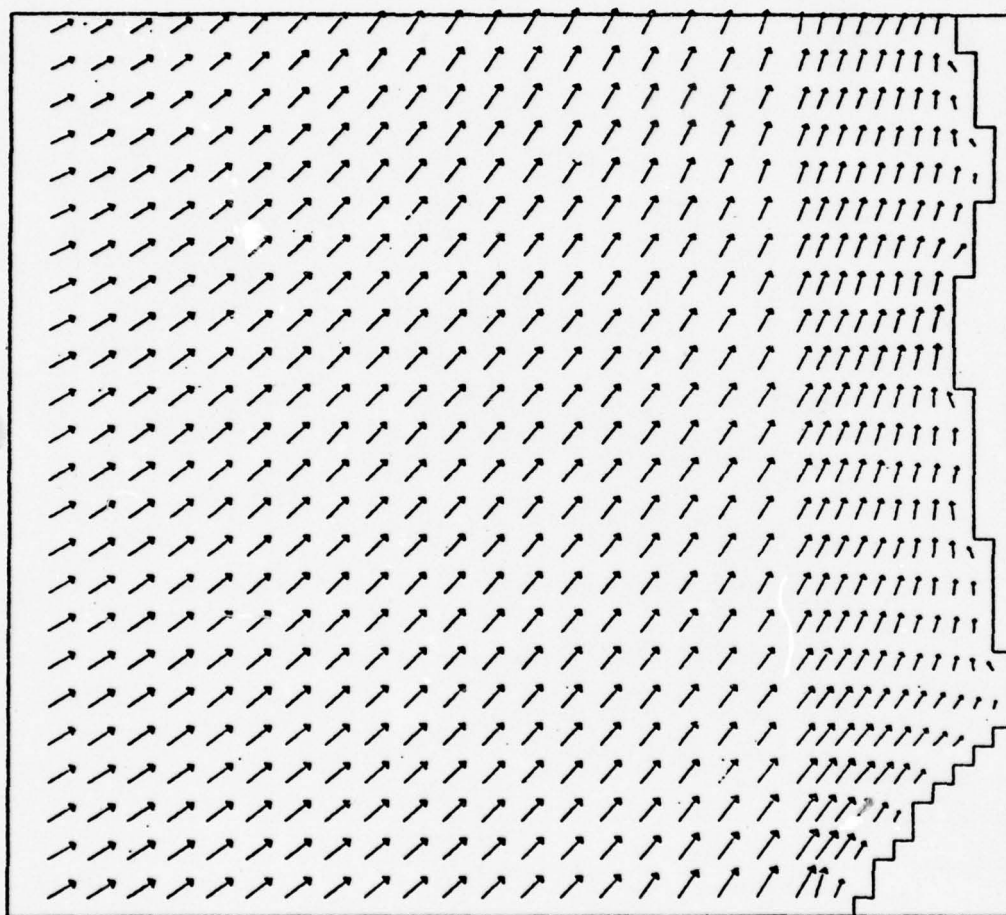
SYMBOLS
 1
 2
 3
 4
 5
 6
 7
 8
 9
 A
 B
 C

CONTOUR LEVELS
 0.100
 0.500
 1.000
 1.500
 2.000
 2.500
 3.000
 3.500
 4.000
 4.500
 5.000
 5.500

CONTOURS OF STREAM FUNCTION FOR LAKE ERIE -- NEARSHORE

WD=35MPH.MNH



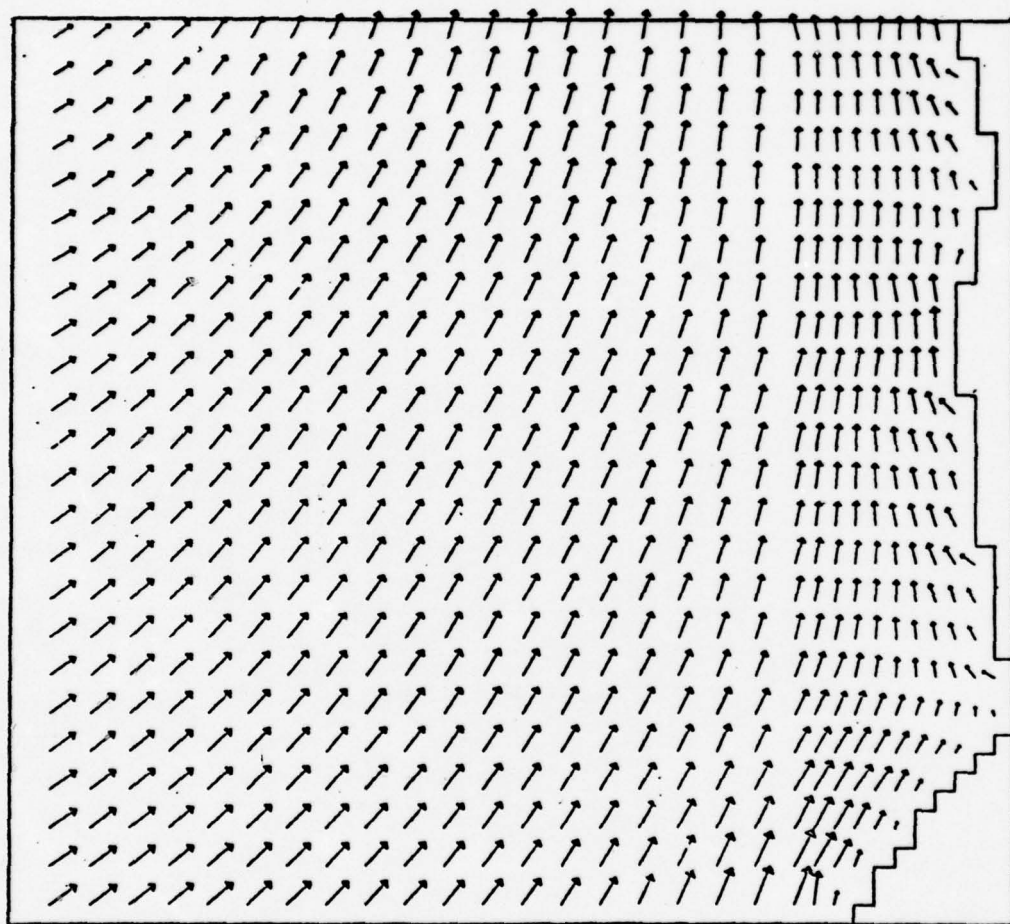


35 MPH.MMM

1.0

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 10.0 FT

VECTOR LENGTH = 1 FOOT/SEC = —

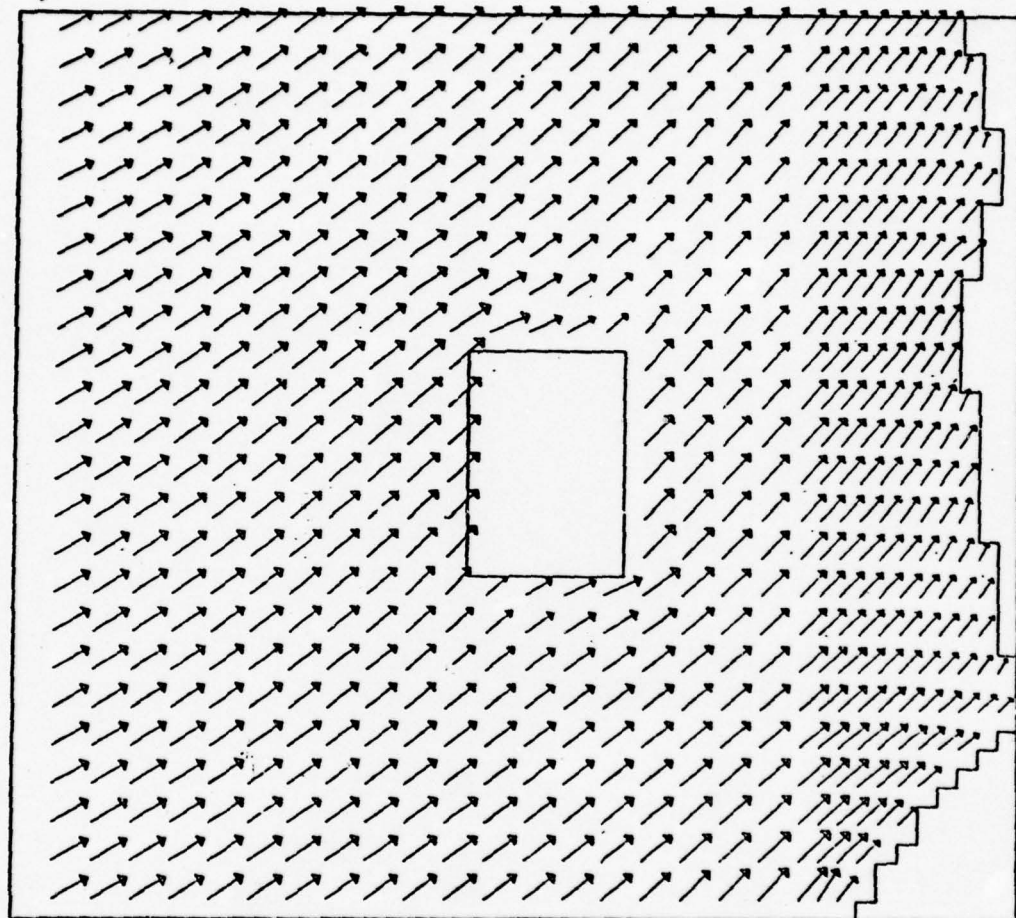


36 MPH/MMH

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 16.0 FT

1.0

VECTOR LENGTH = 1 FOOT/SEC = —

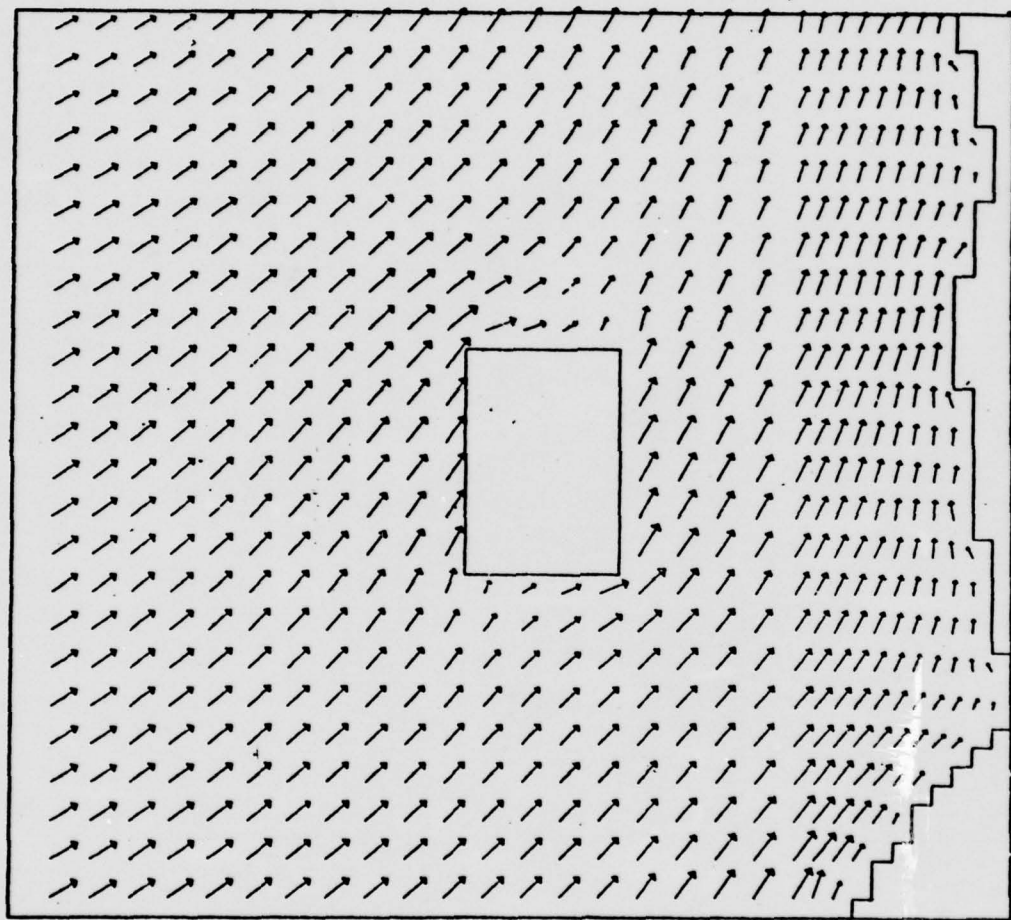


35 MPH-MIN

1.0

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 0.0 FT

VECTOR LENGTH = 1 FOOT/SEC = —

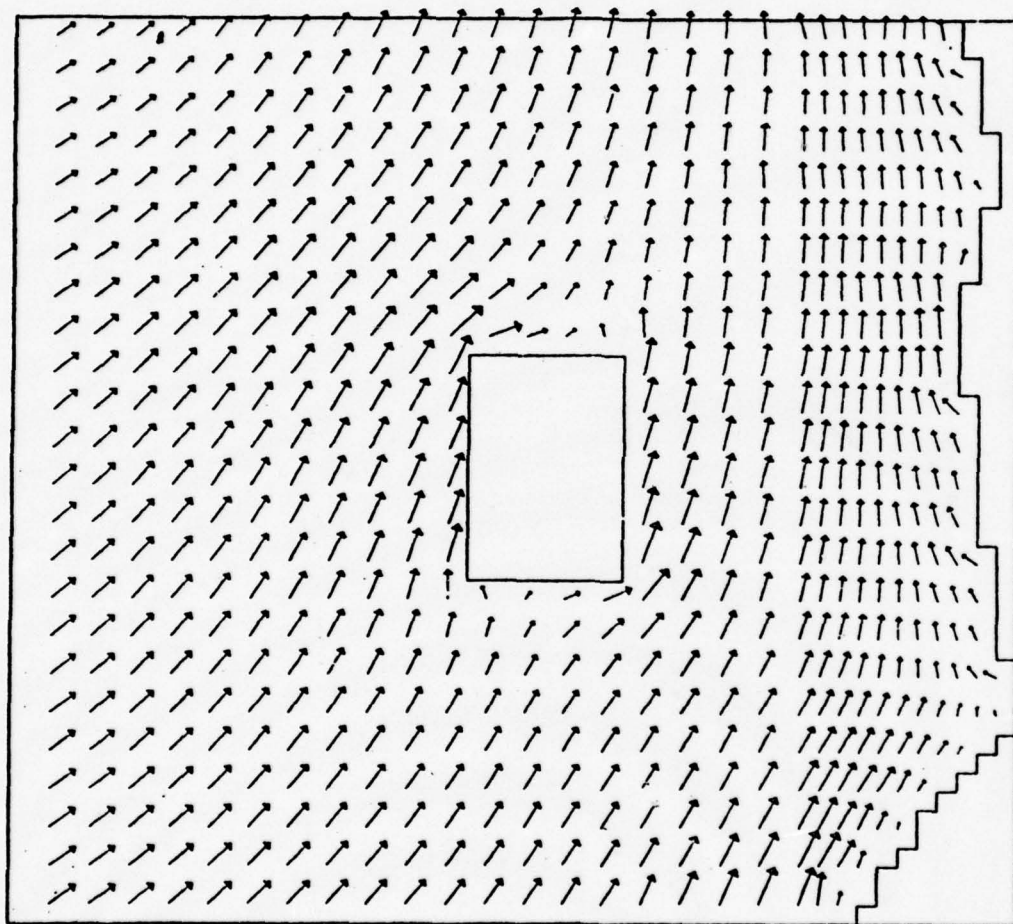


35 MPH-MIN

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 10.0 FT

1.0

VECTOR LENGTH = 1 FOOT/SEC = —

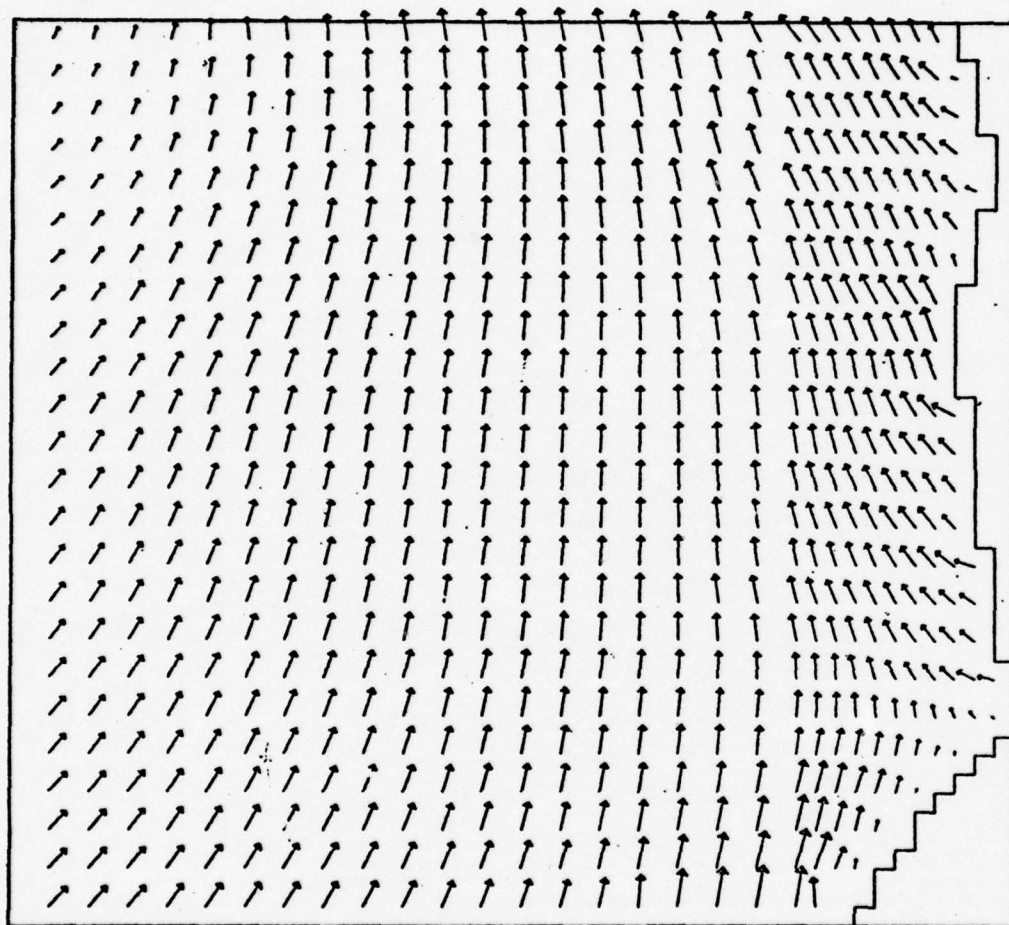


35 MPH.MMM

1.0

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 15.0 FT

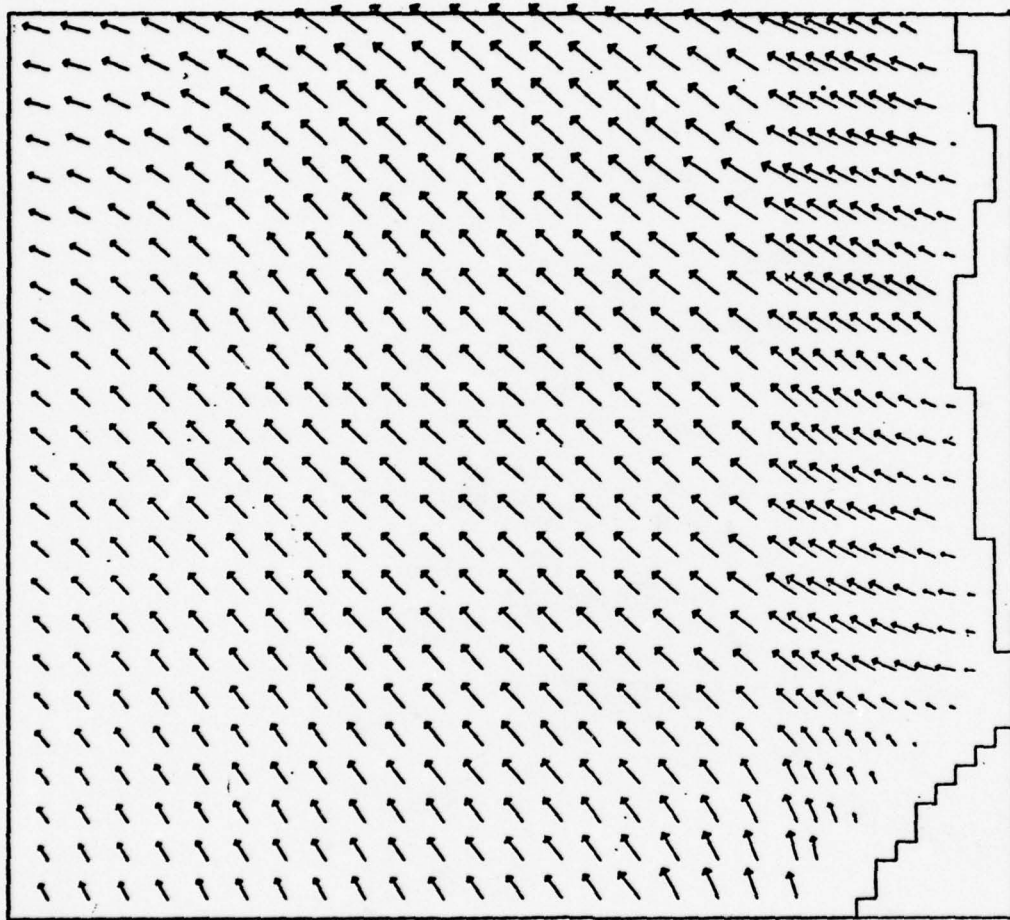
VECTOR LENGTH = 1 FOOT/SEC = —



35 MPH MIN

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 20.0 FT

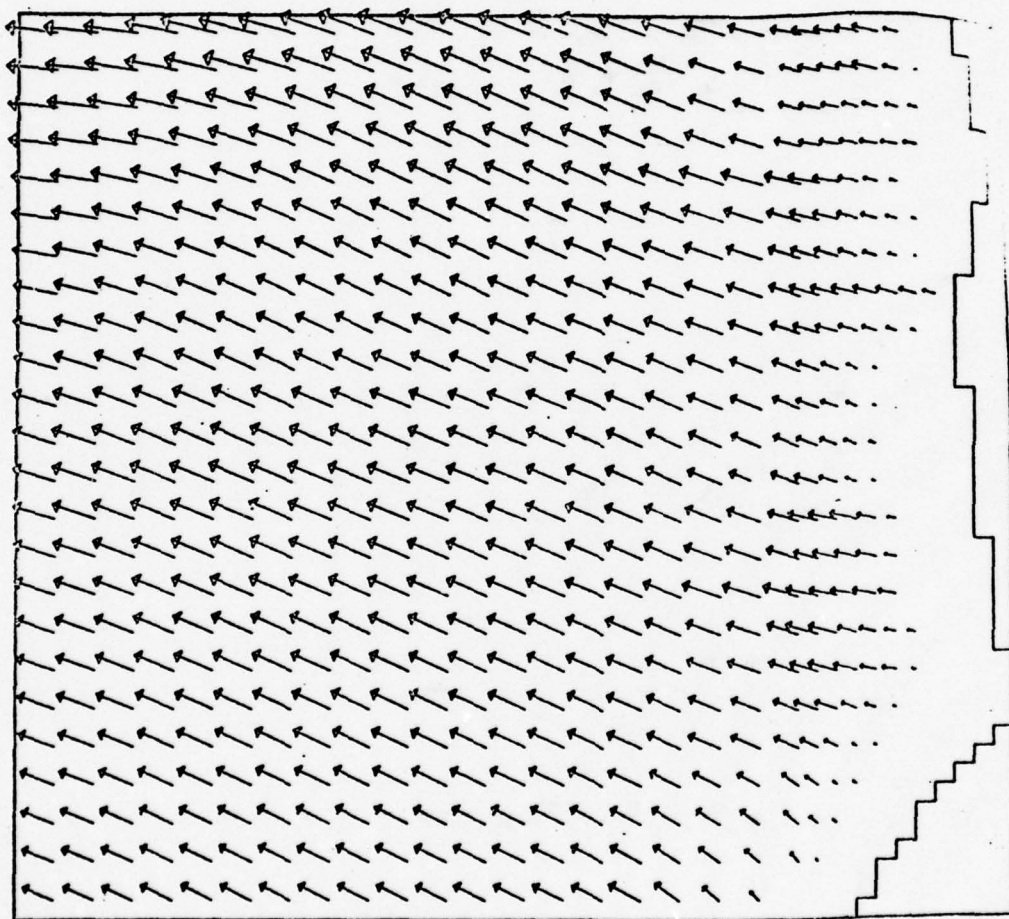
VECTOR LENGTH = 1 FOOT/SEC = 1.0



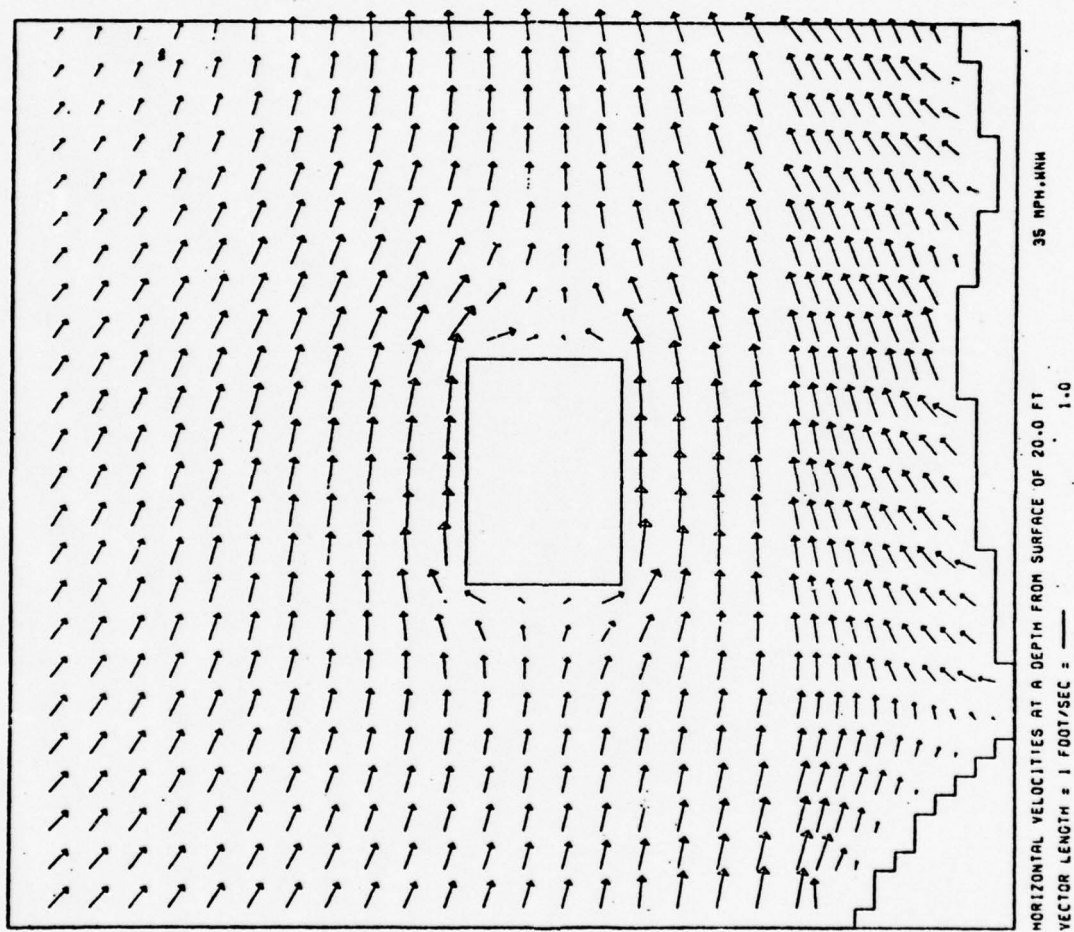
35 MPH.MMM

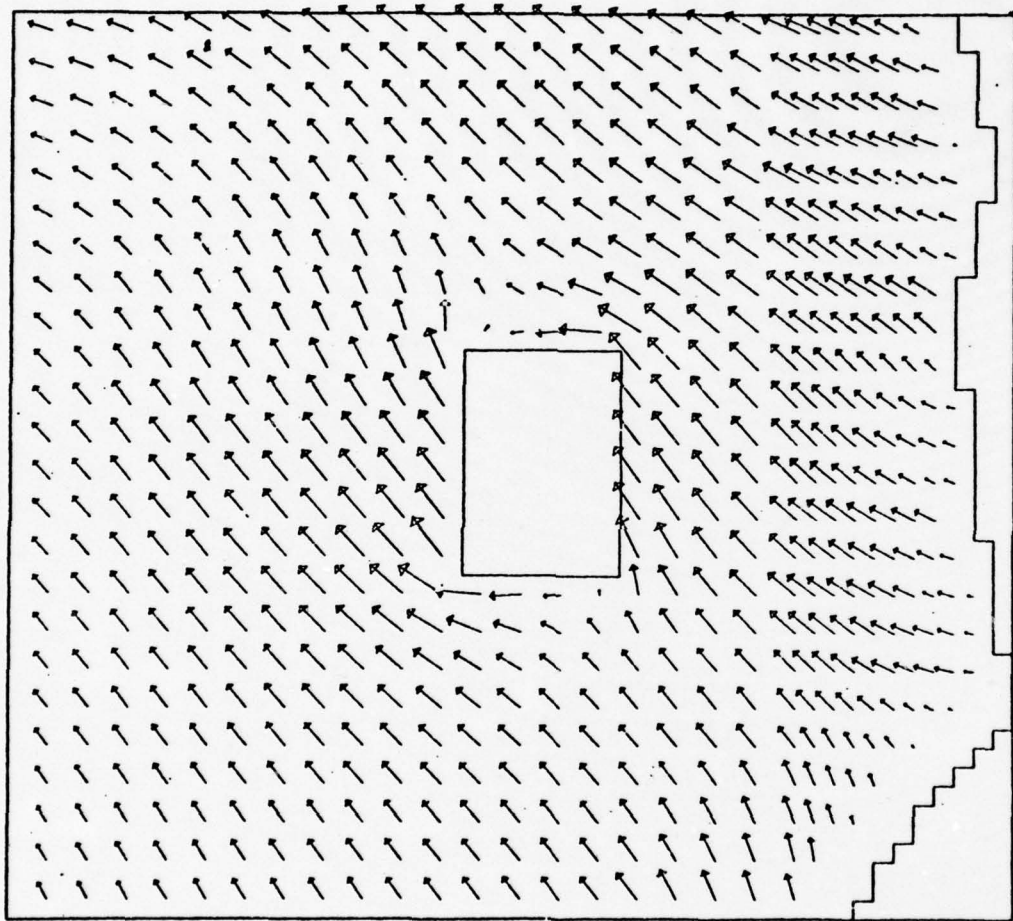
HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 30.0 FT

VECTOR LENGTH = 1 FOOT/SEC = 1.0

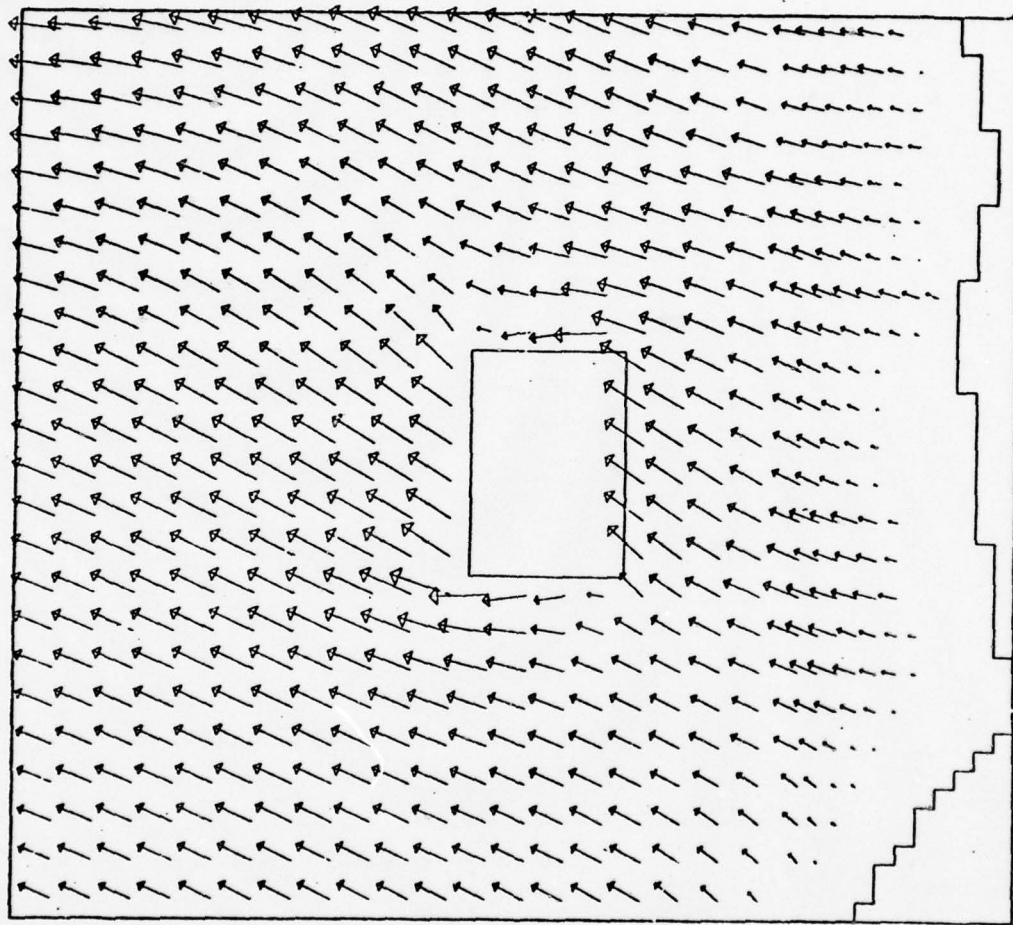


HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 40.0 FT
VECTOR LENGTH = 1 FOOT/SEC =

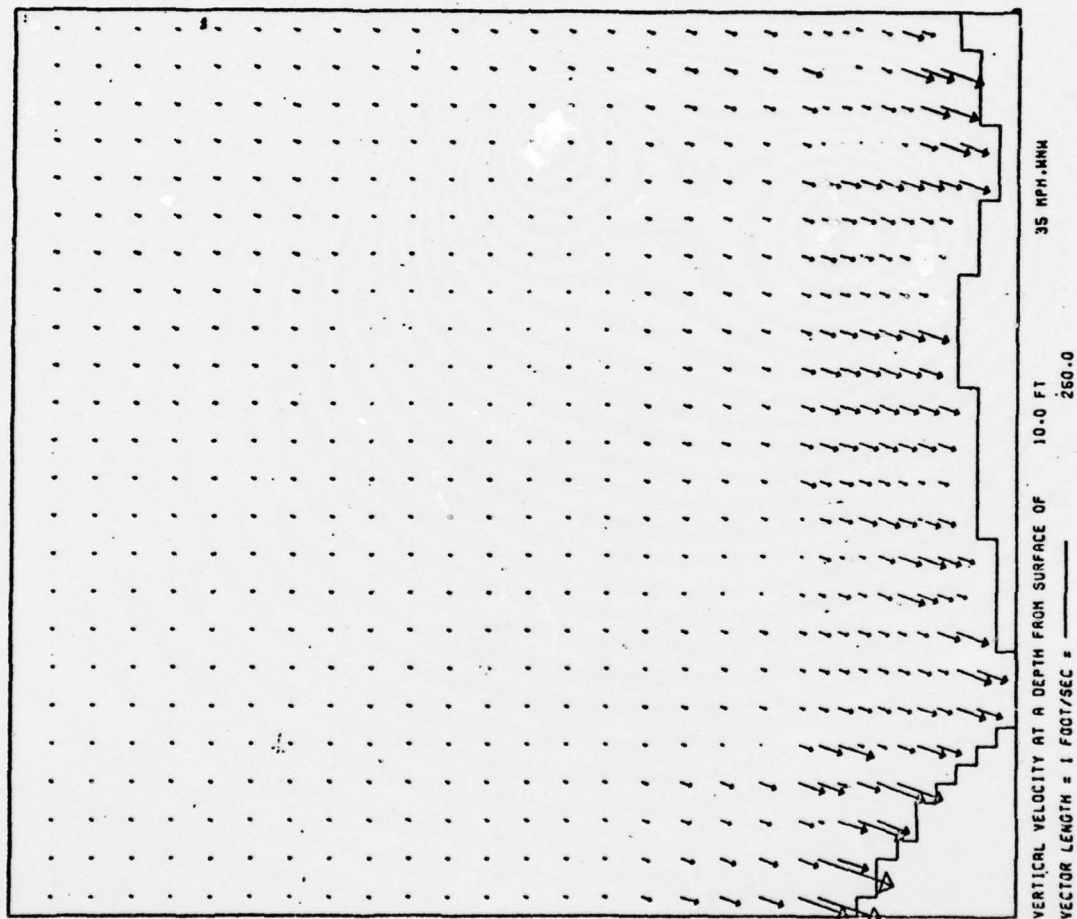


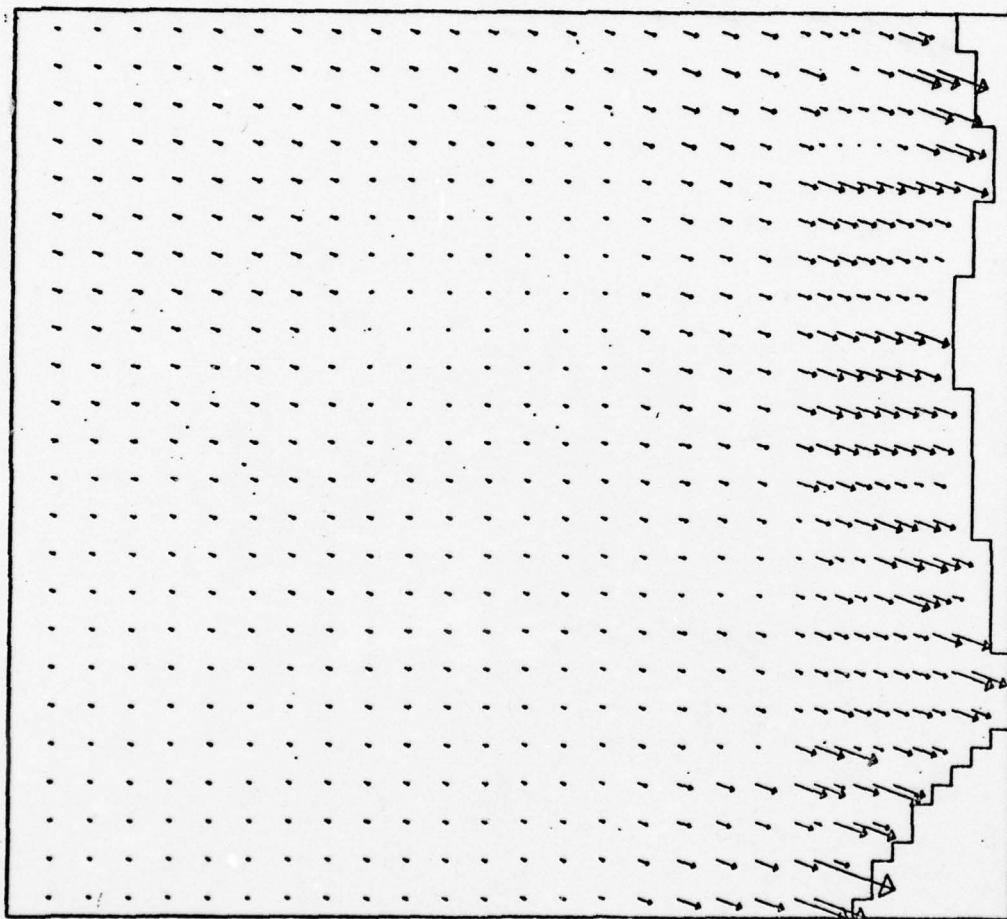


HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 30.0 FT
VECTOR LENGTH = 1 FOOT/SEC = 1.0
35 MPH>NNN



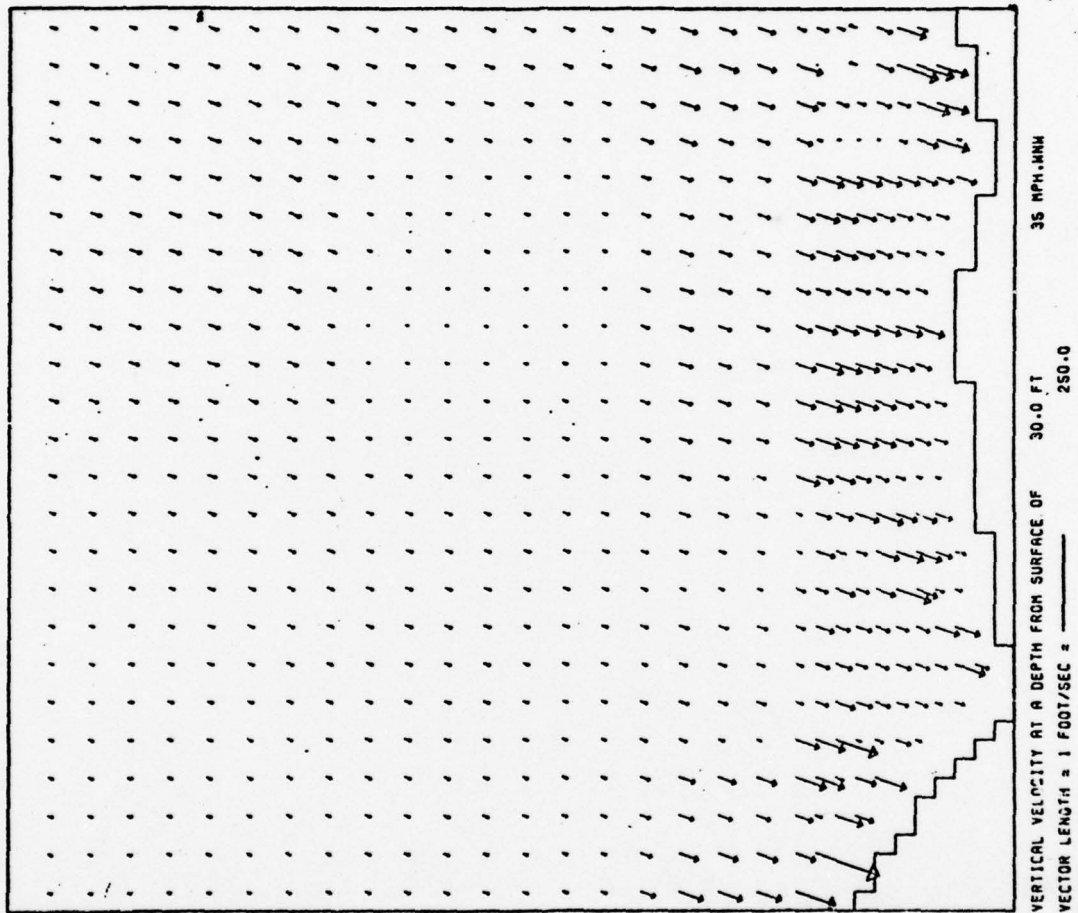
HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 40.0 FT
VECTOR LENGTH = 1 FOOT/SEC = 1.0
35 MPH/NNH

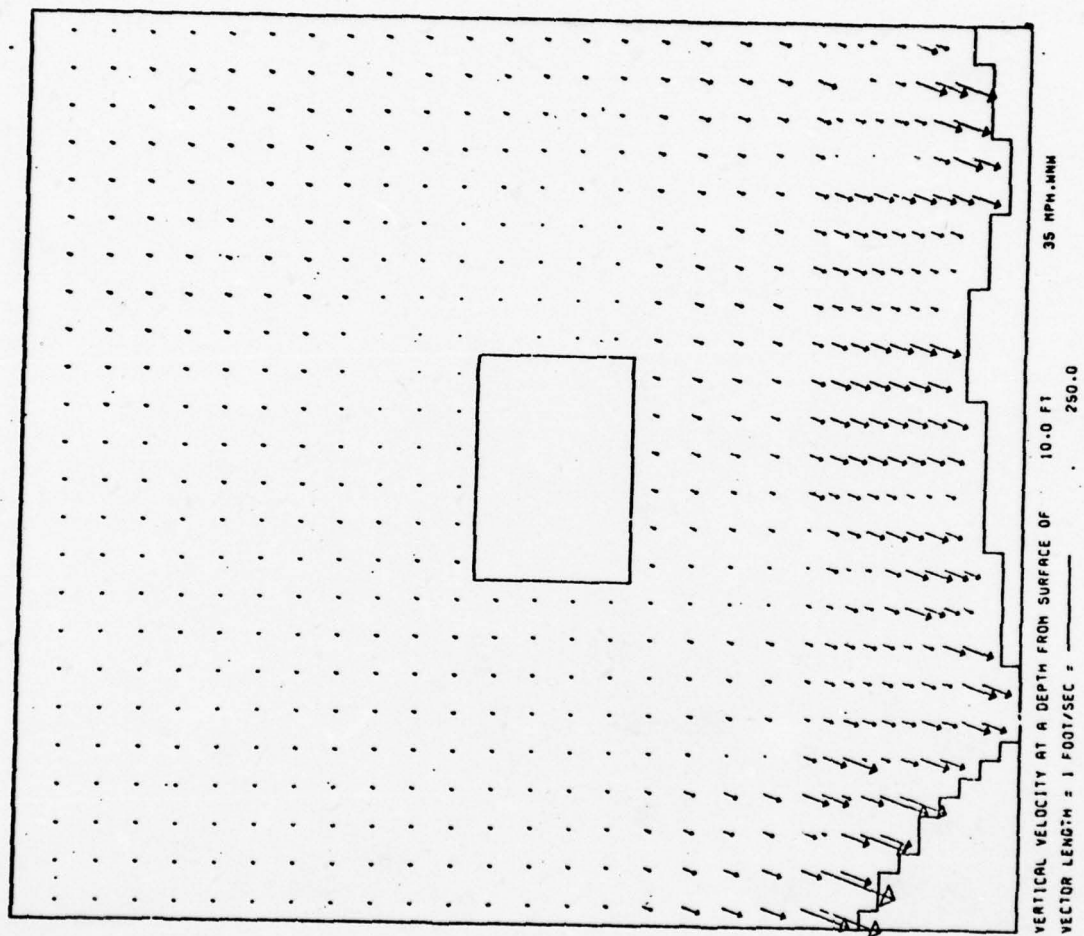


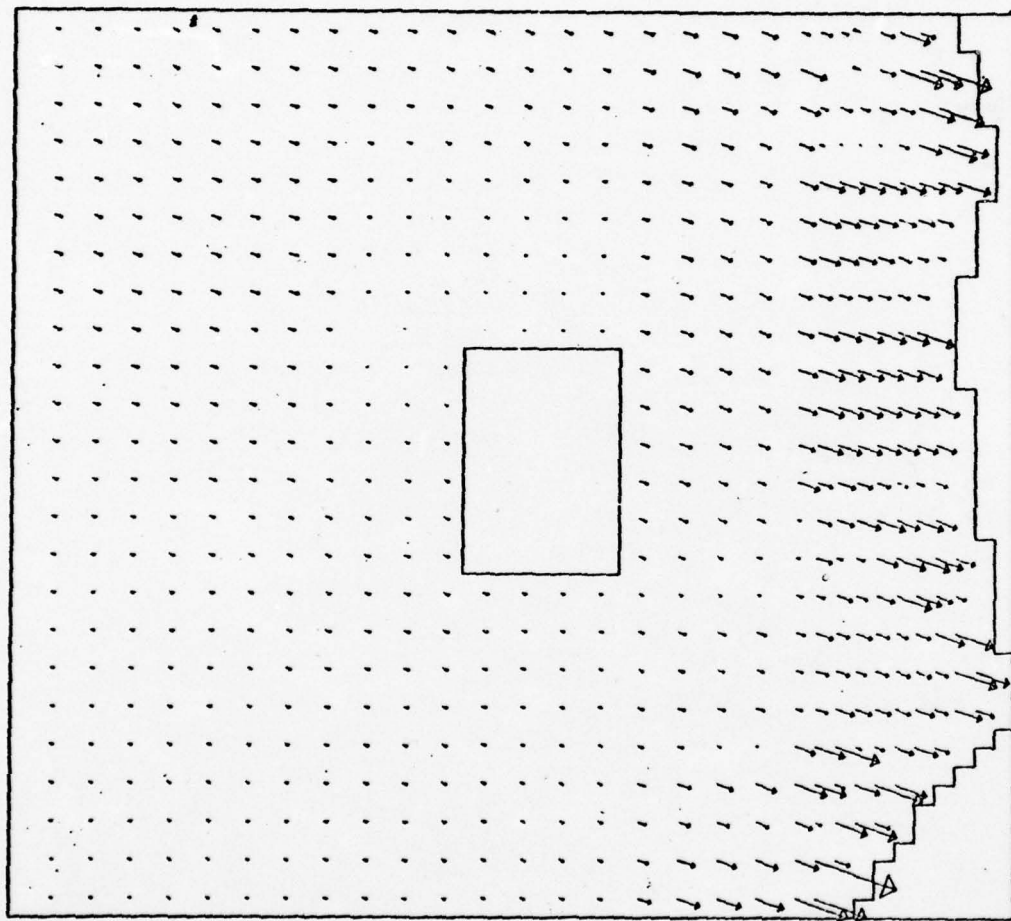


35 MPH/KN

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF 20.0 FT
VECTOR LENGTH = 1 FOOT/SEC =

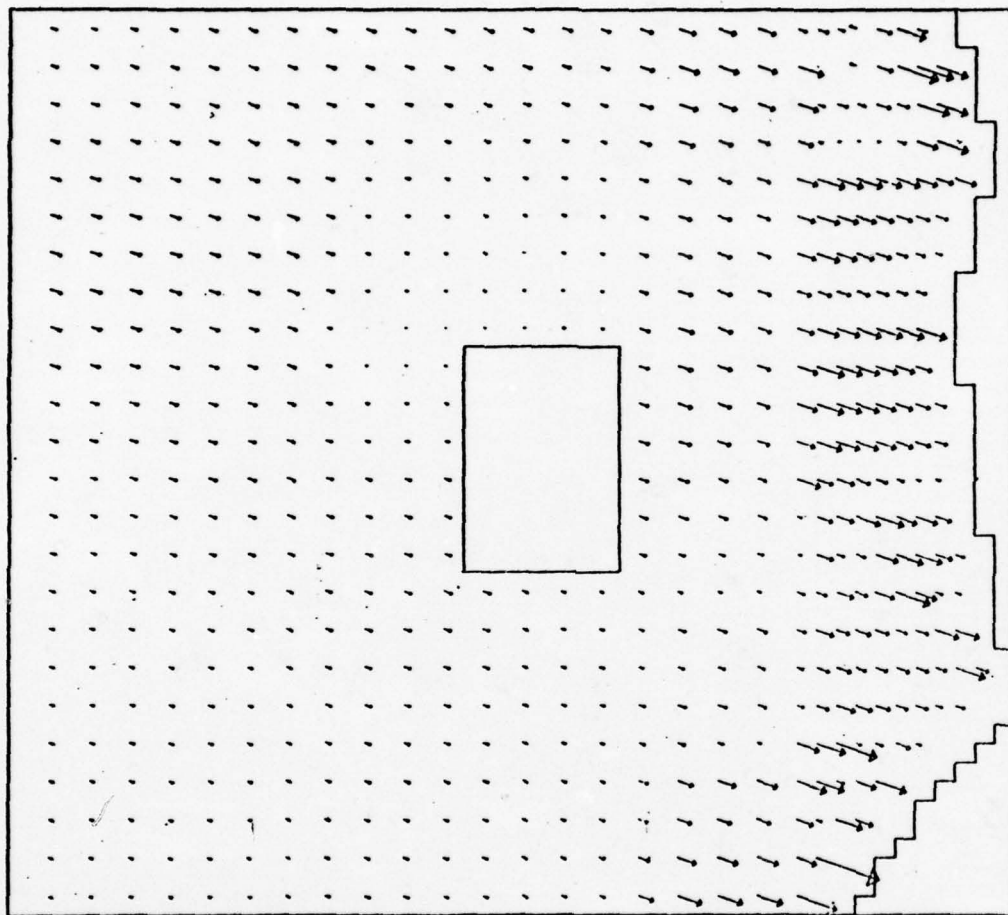






35 MPH.MMM

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF 20.0 FT
VECTOR LENGTH = 1 FOOT/SEC : 250.0



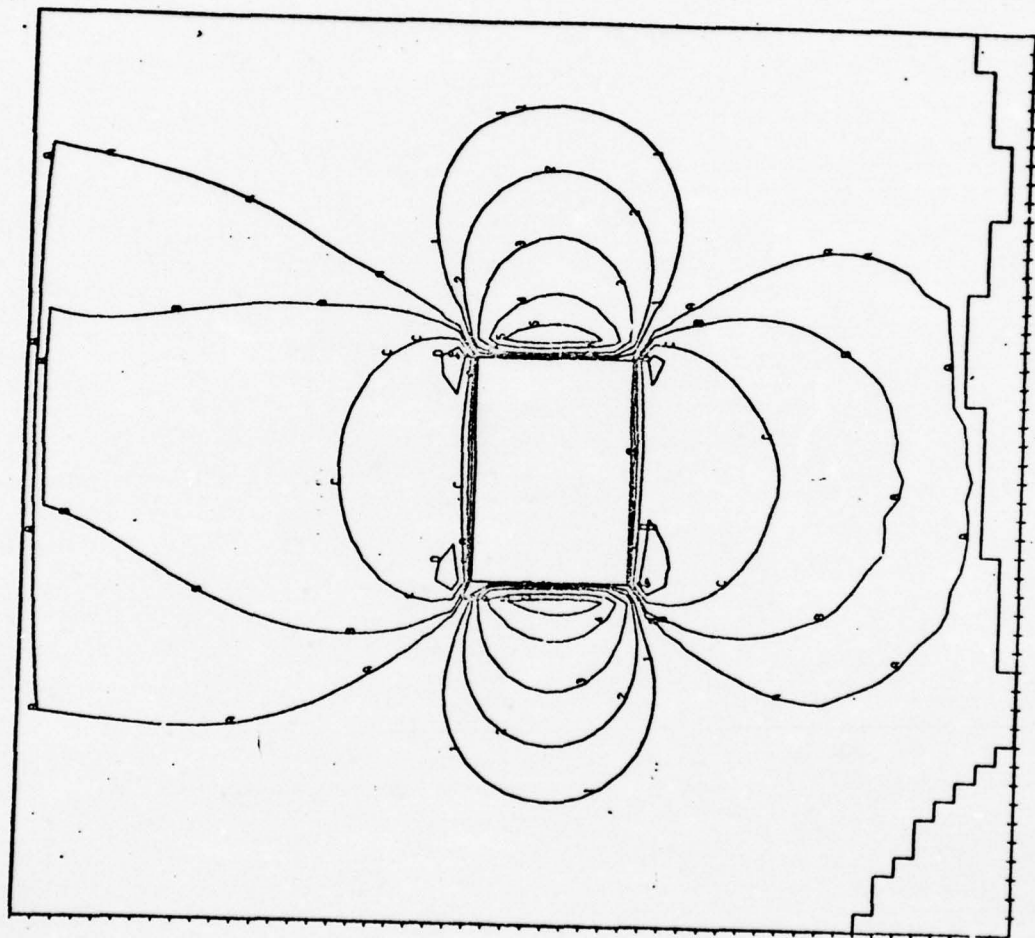
35 MPH-MIN

30.0 FT

250.0

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

VECTOR LENGTH = 1 FOOT/SEC =

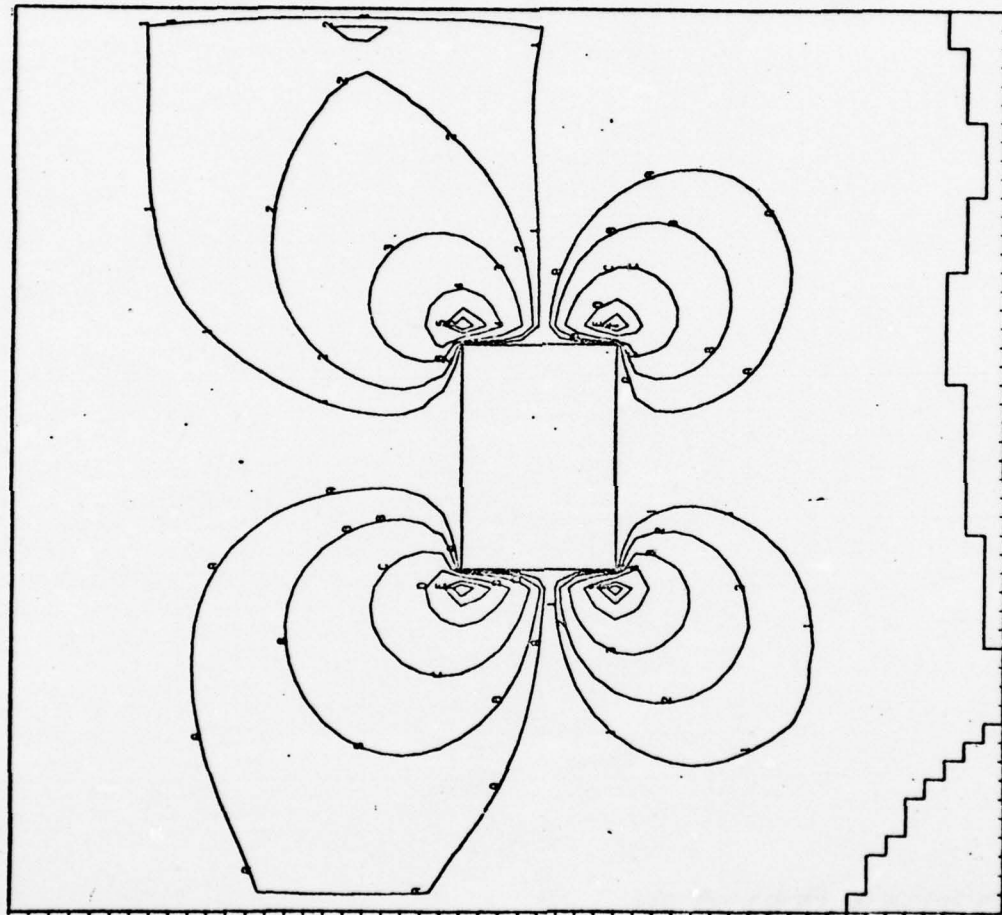


CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

U.D=0.4=35HNN

SYMBOLS
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CONTOUR LEVELS
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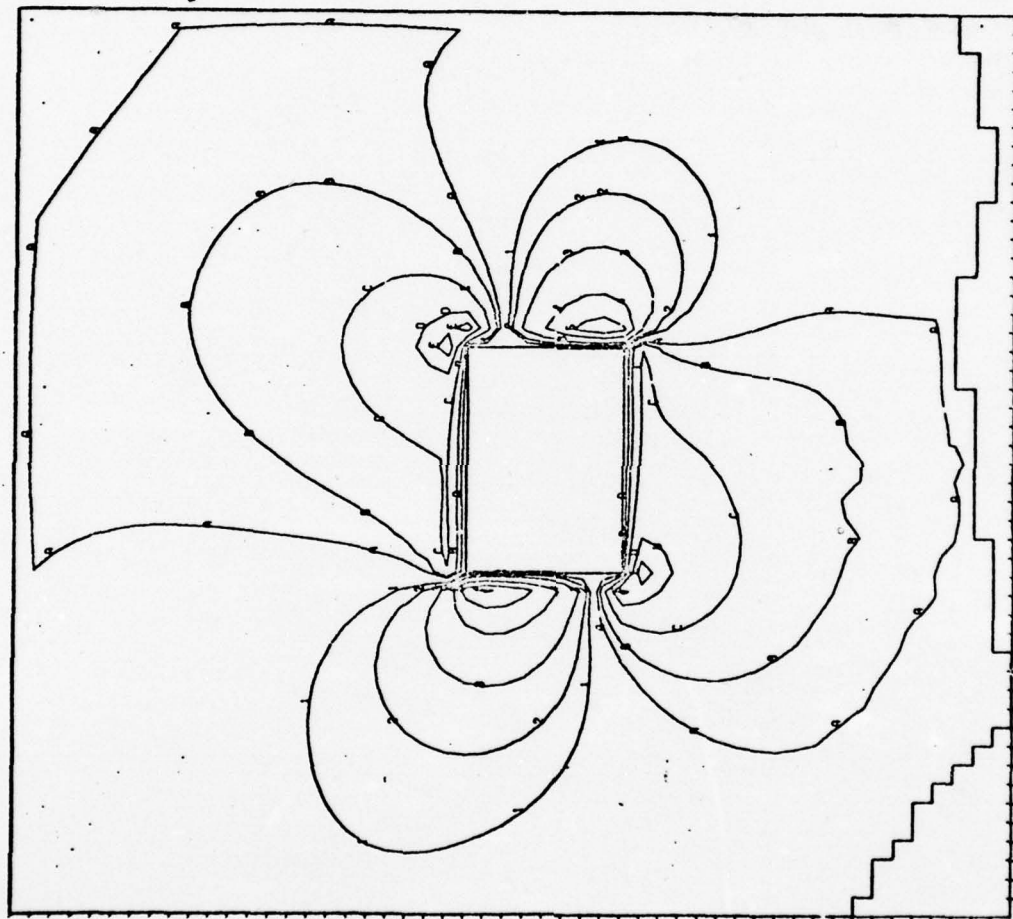


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CONTOUR LEVELS
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CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

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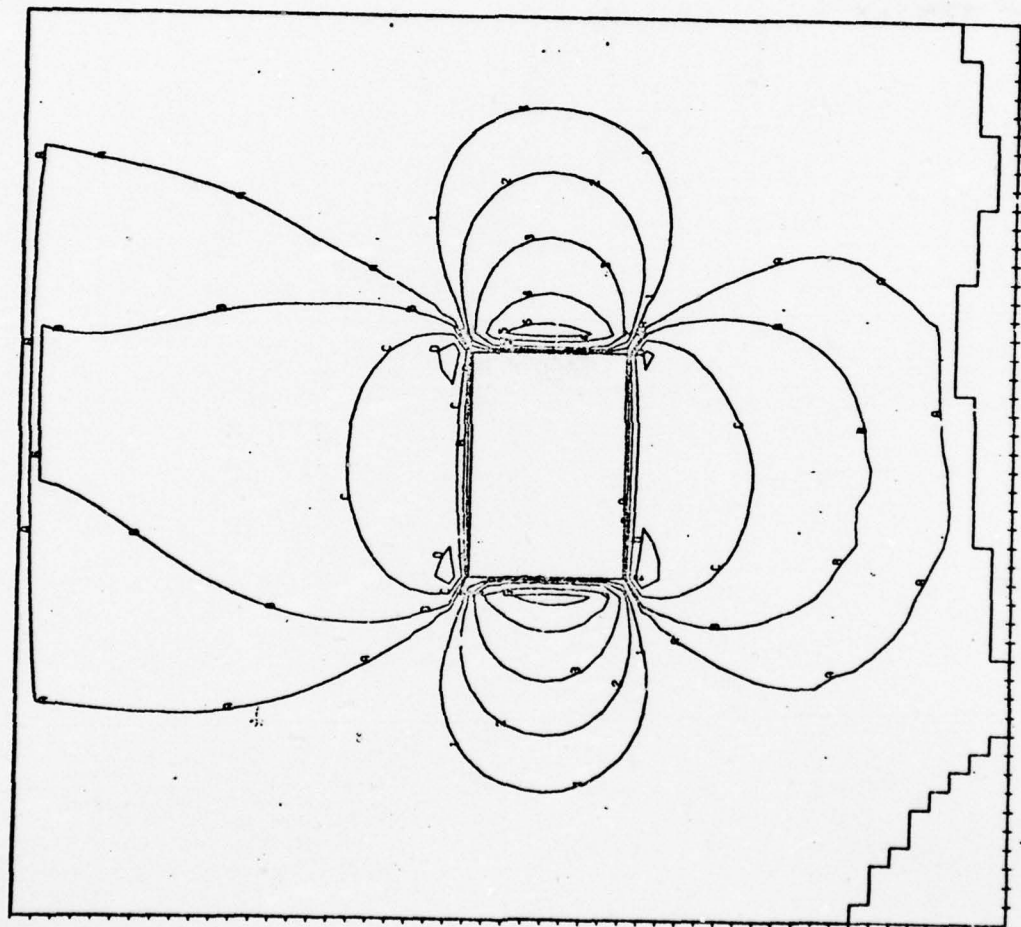


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CONTOUR LEVELS
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M.O=0.4=35MMH

CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE



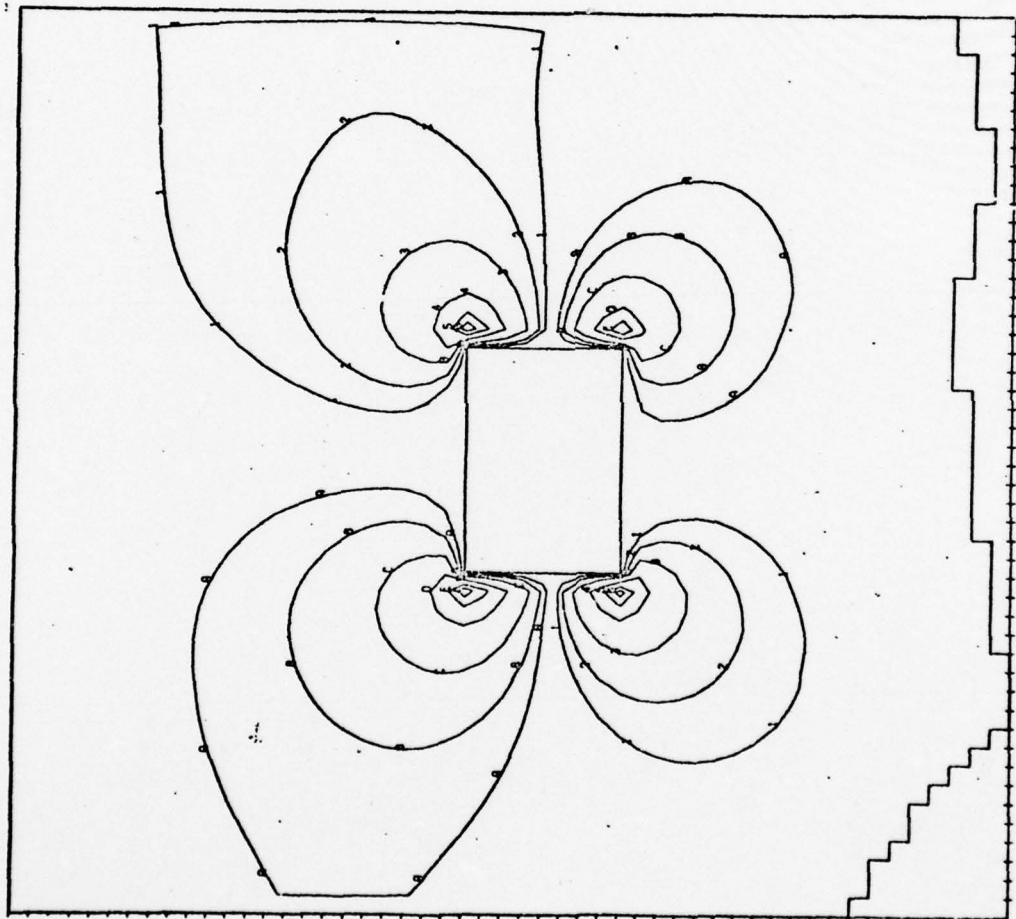
CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

U.O=15.H=35KMH

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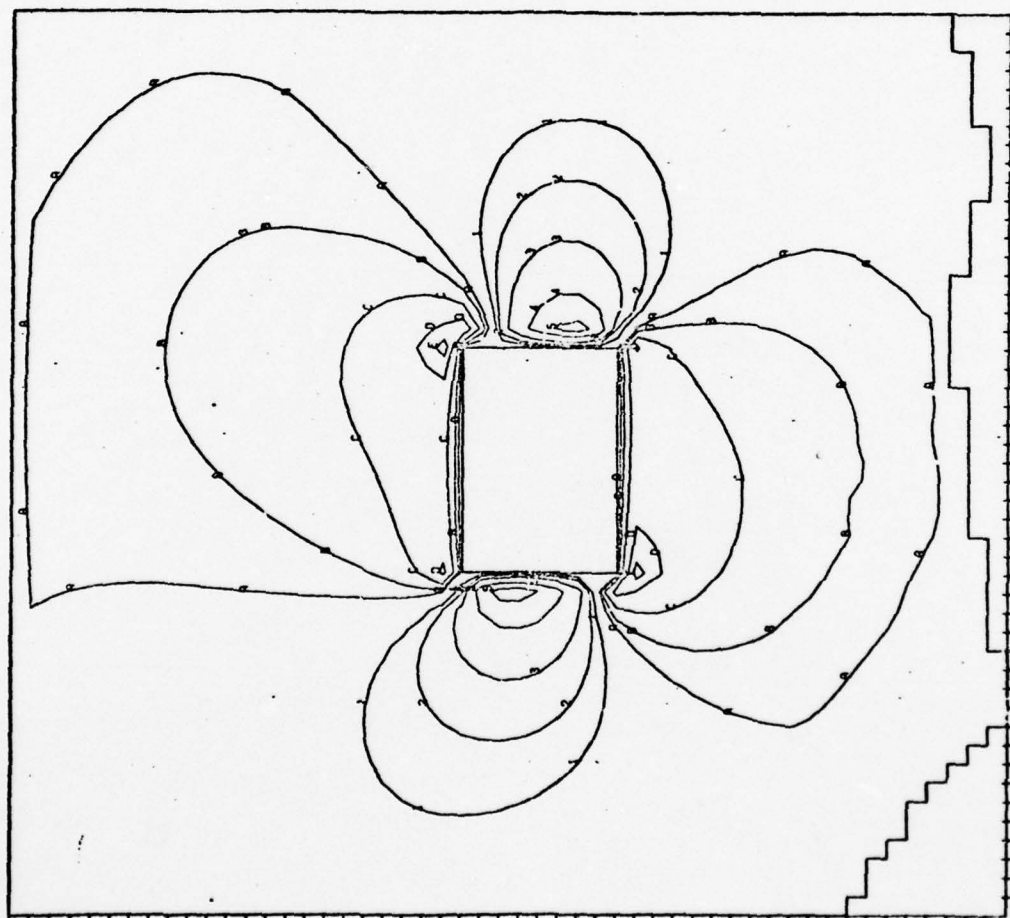
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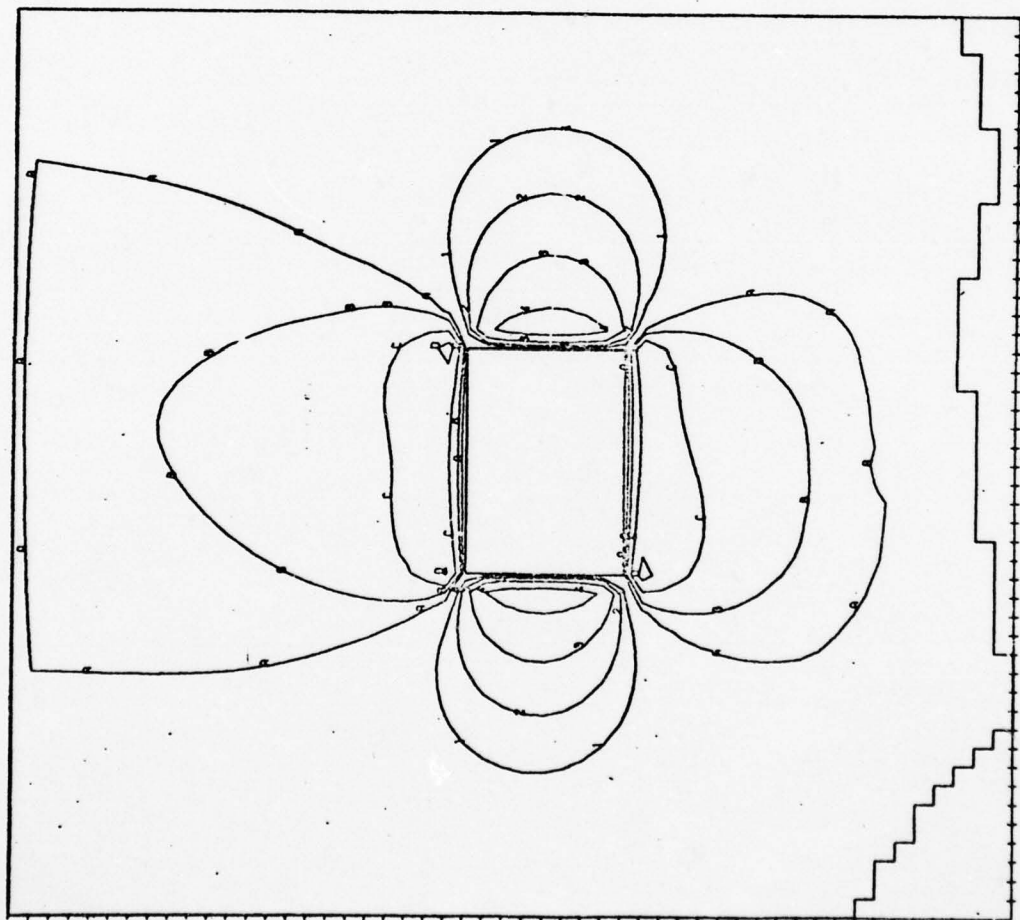


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CONTOUR LEVELS
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CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

M.D=15, H=35HNH



SYMBOLS
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CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

U.D-30.H-35HNH

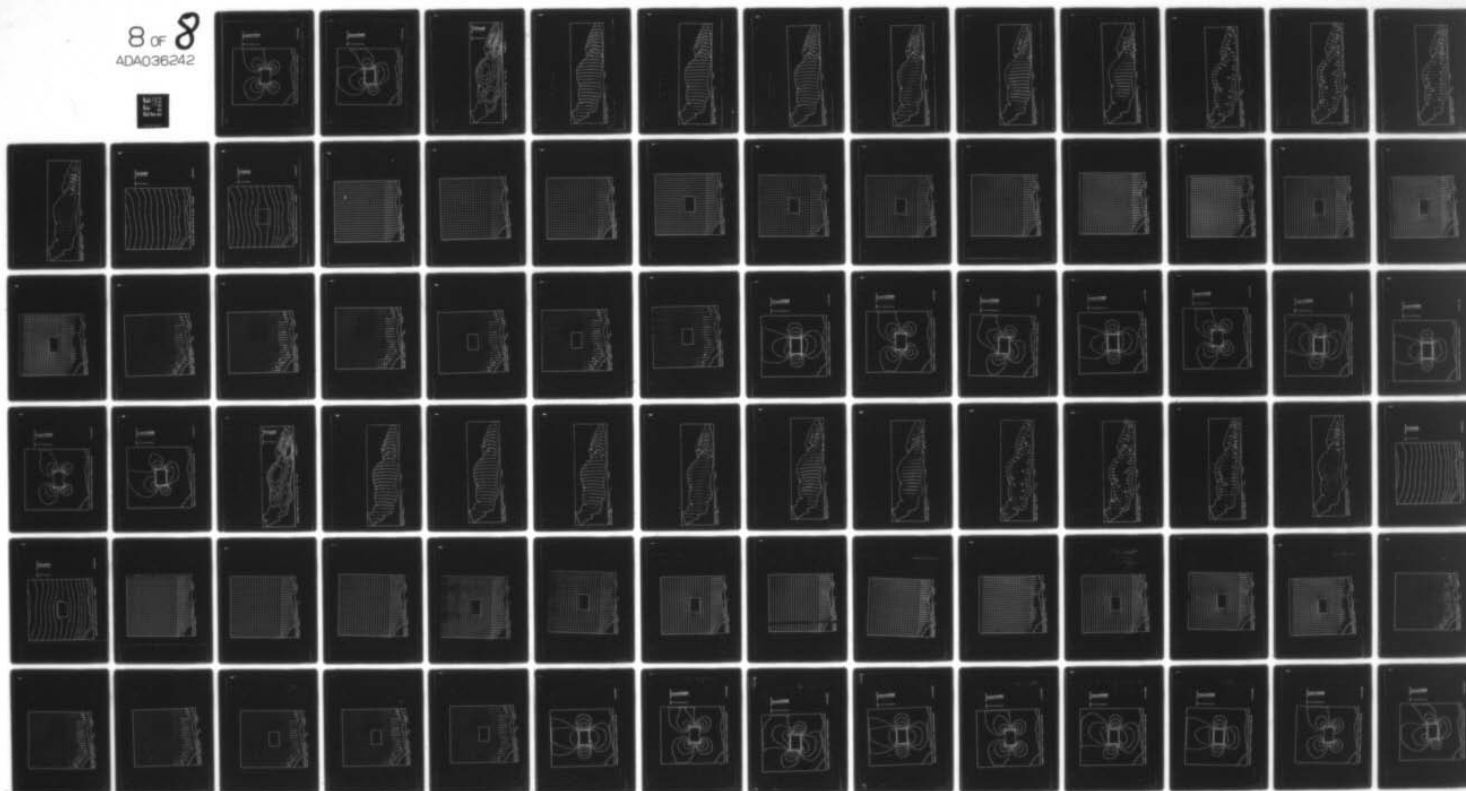
AD-A036 242

ARMY ENGINEER WATERWAYS EXPERIMENT STATION VICKSBURG MISS F/G 1/5
LAKE ERIE INTERNATIONAL JETPORT MODEL FEASIBILITY INVESTIGATION--ETC(U)
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8 of 8
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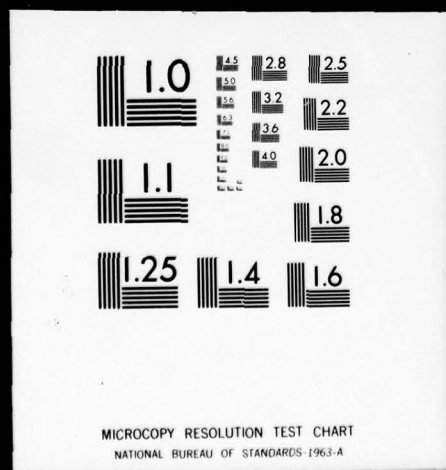


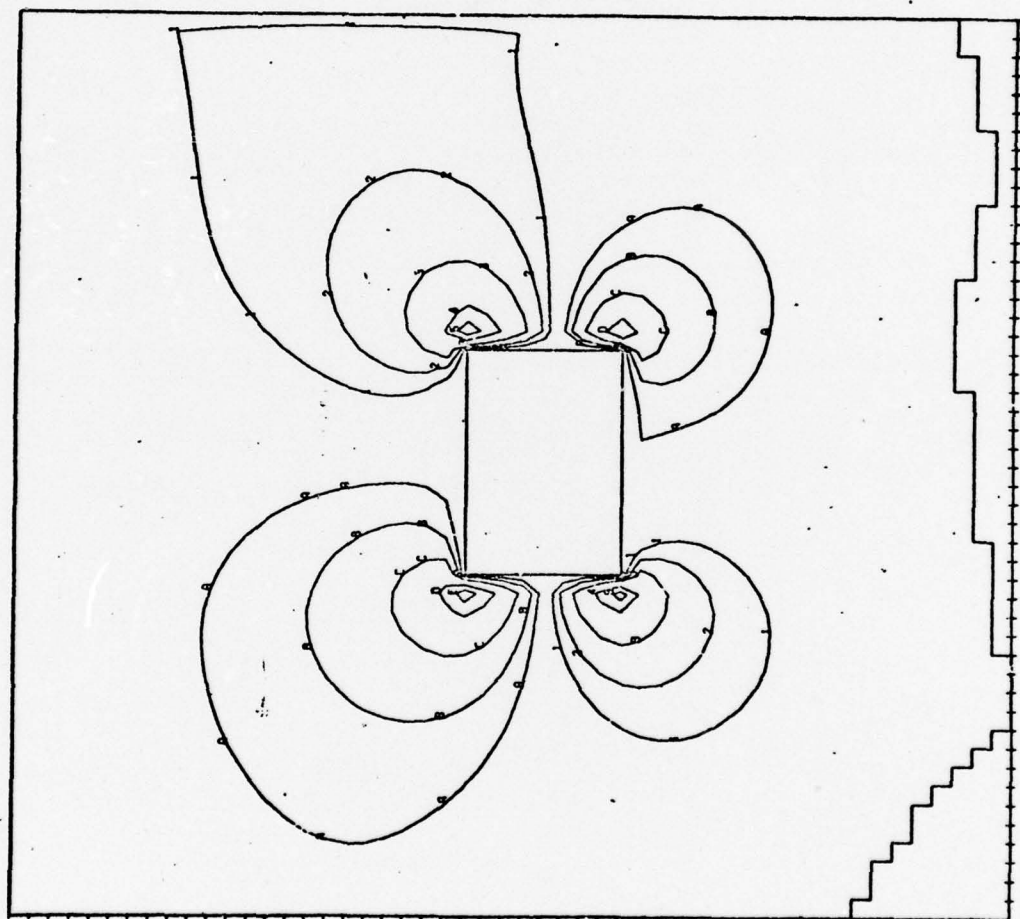
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8 OF 8

ADA036242



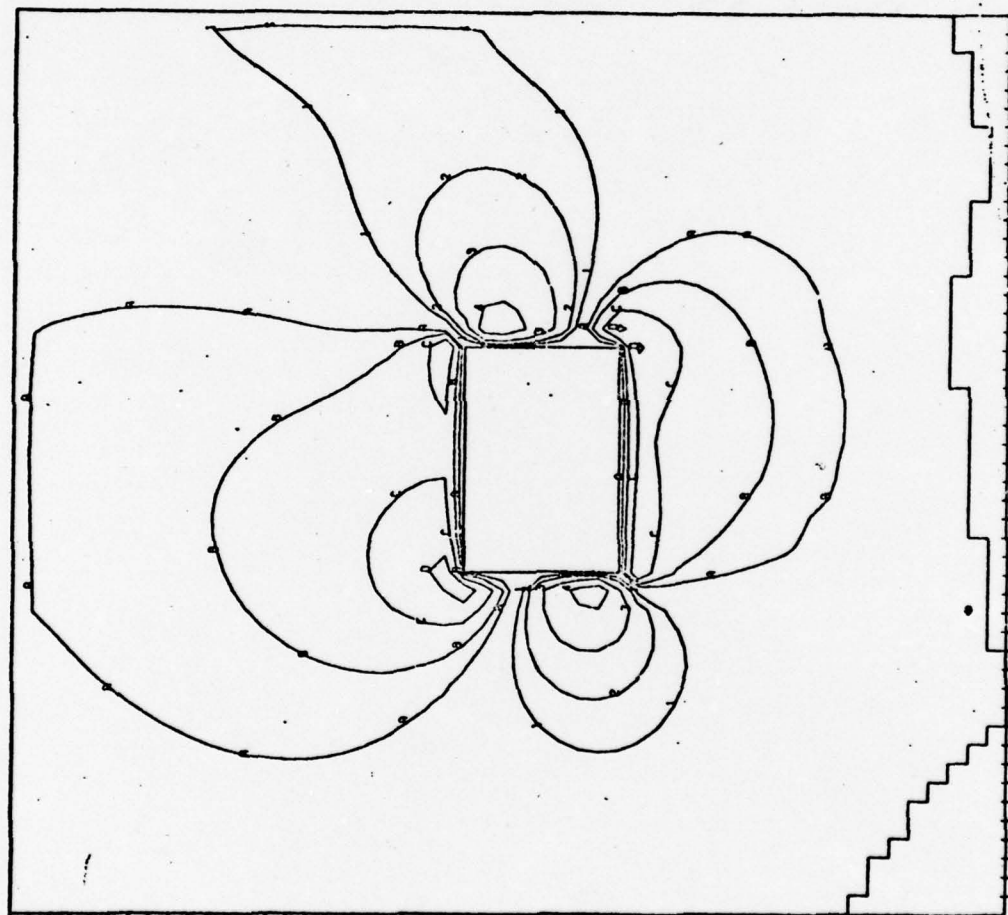


SYMBOLS
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000

CONTOUR LEVELS
0.050
0.100
0.200
0.400
0.600
0.800
1.000
1.500
2.000
-0.500
-0.100
-0.200
-0.400
-0.600
-0.800
-1.000
-1.500
-2.000

CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

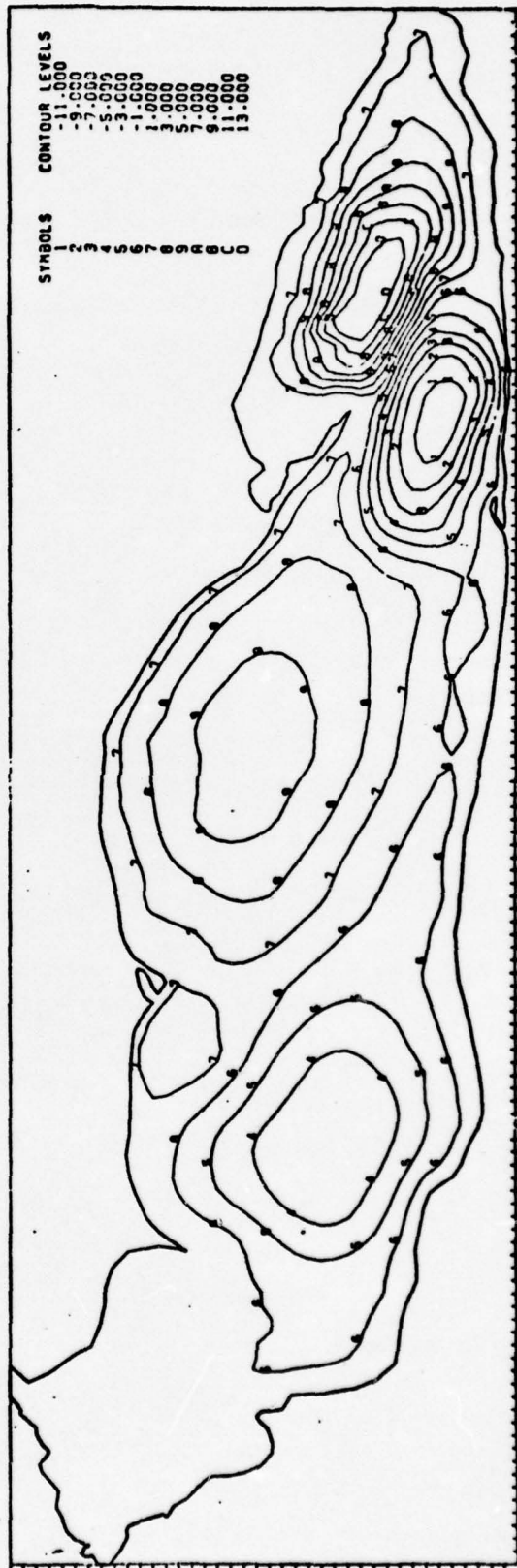
V.D=30.H=35MMH

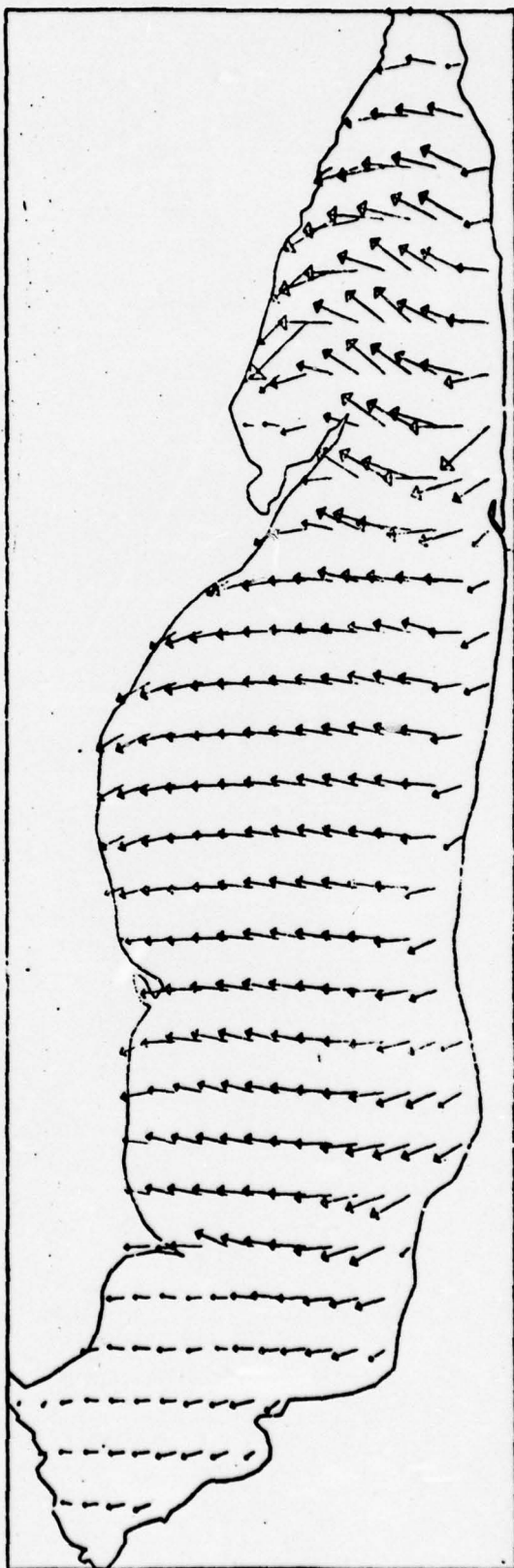


SYMBOLS CONTOUR LEVELS
 1 0.050
 2 0.100
 3 0.200
 4 0.400
 5 0.600
 6 0.800
 7 1.000
 8 1.500
 9 2.000
 0 -0.050
 1 -0.100
 2 -0.200
 3 -0.400
 4 -0.600
 5 -0.800
 6 -1.000
 7 -1.500
 8 -2.000

CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

M.D=30.M=35NNH



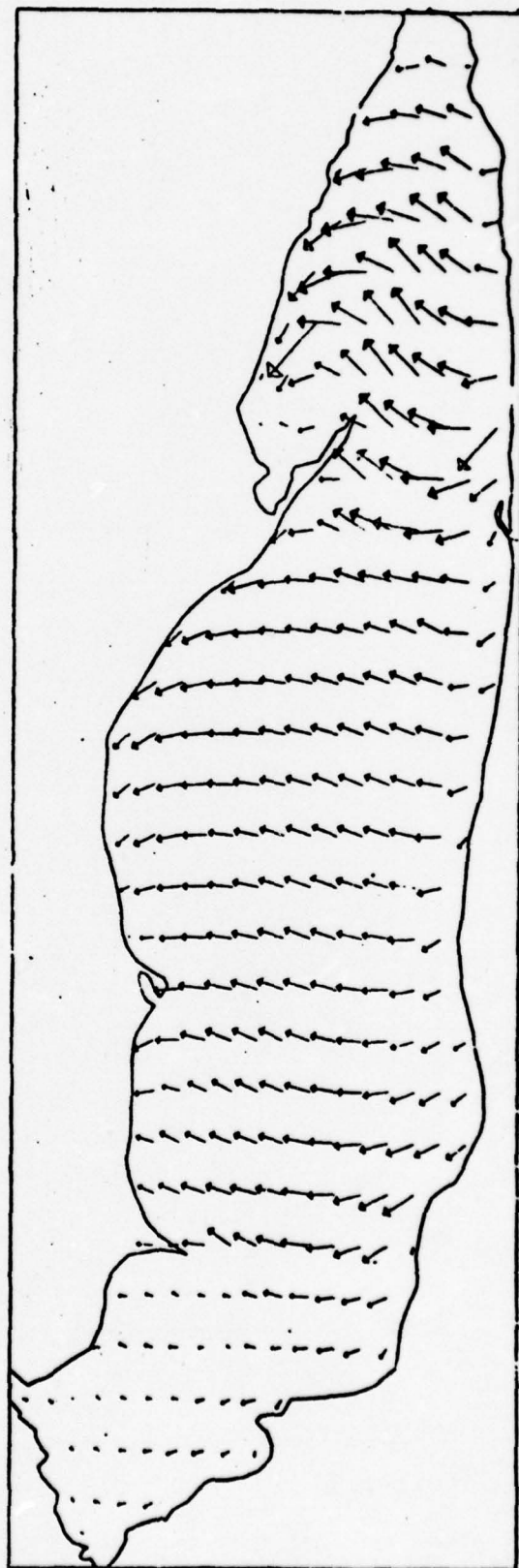


35 MPH/SEC

0.3 FT

1.0

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 0.3 FT
VECTOR LENGTH = 1 FOOT/SEC = —

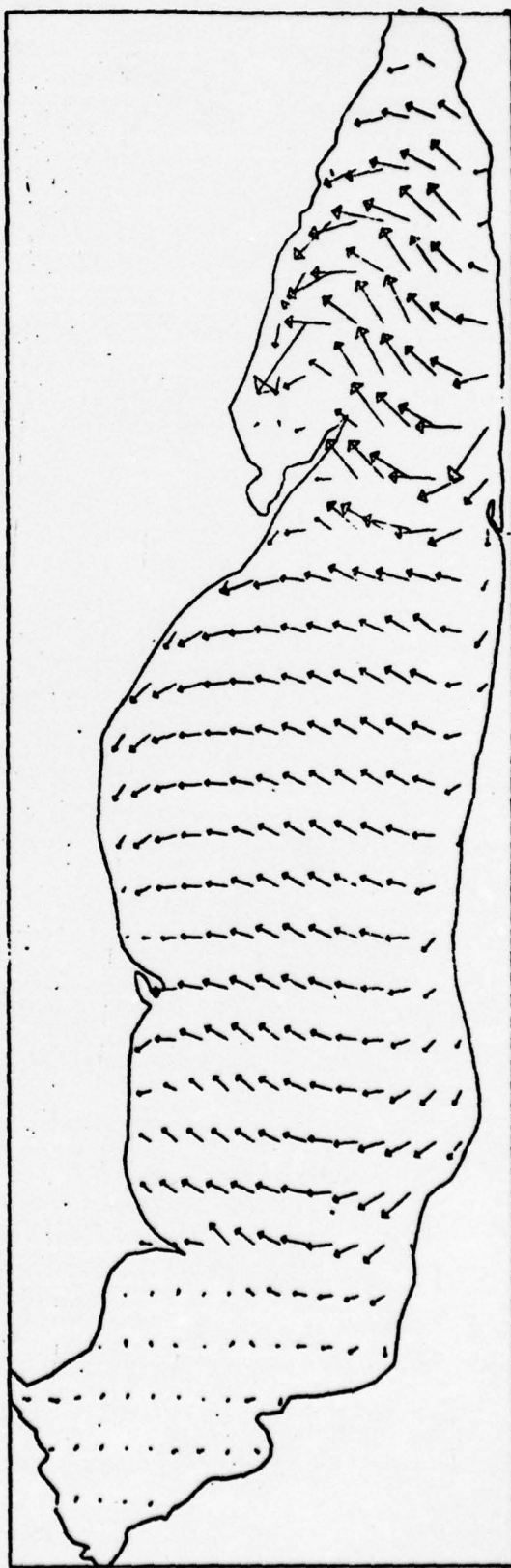


35 KPH.SE

1.0

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 8.0 FT

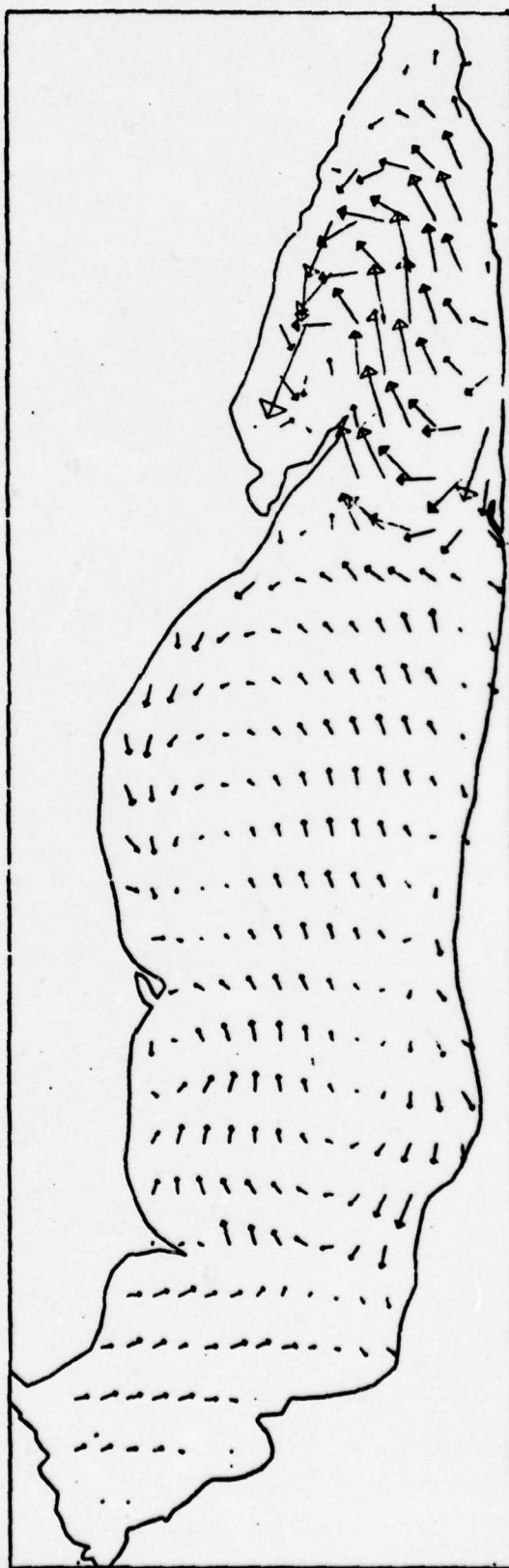
VECTOR LENGTH = 1 FOOT/SEC = --



35 MPH-SE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 10.0 FT

VECTOR LENGTH = 1 FOOT/SEC = —

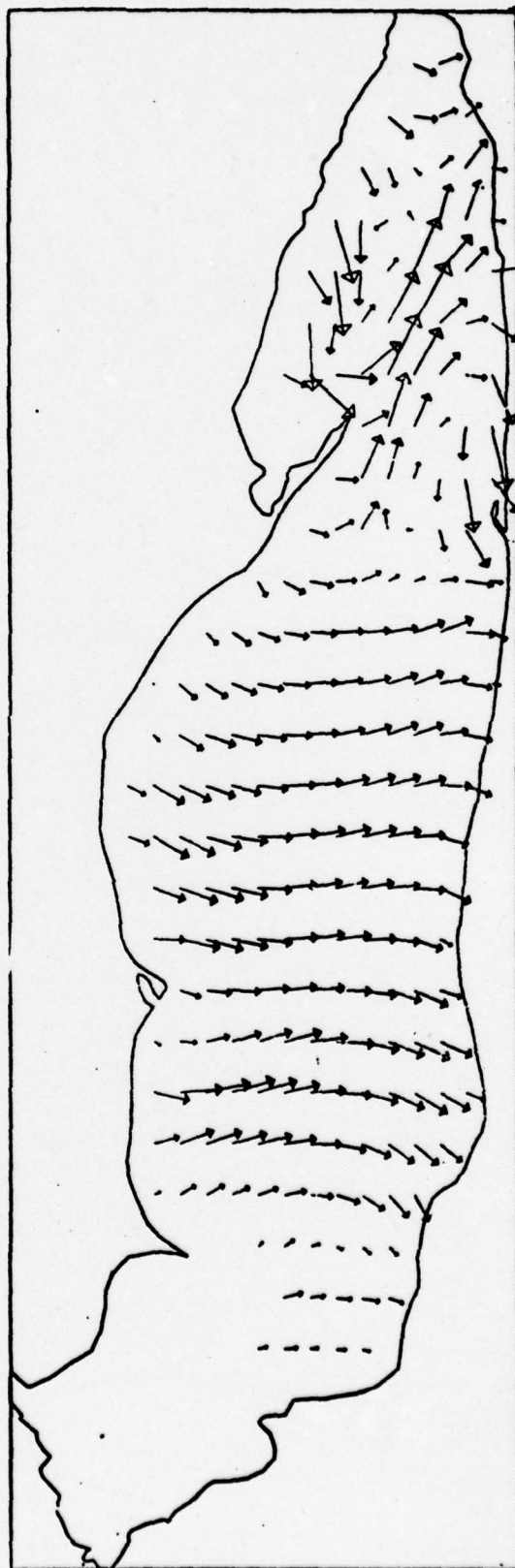


35 MPH SE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 20.0 FT

1.0

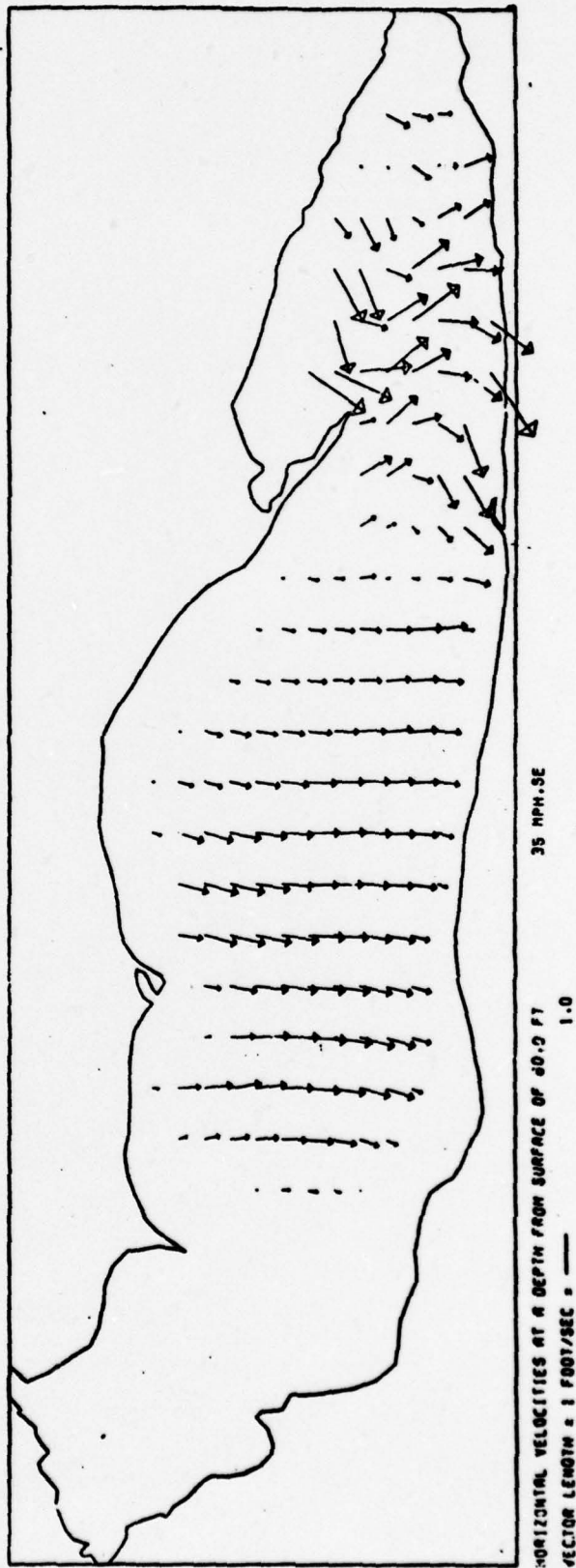
VECTOR LENGTH = 1 FOOT/SEC = —

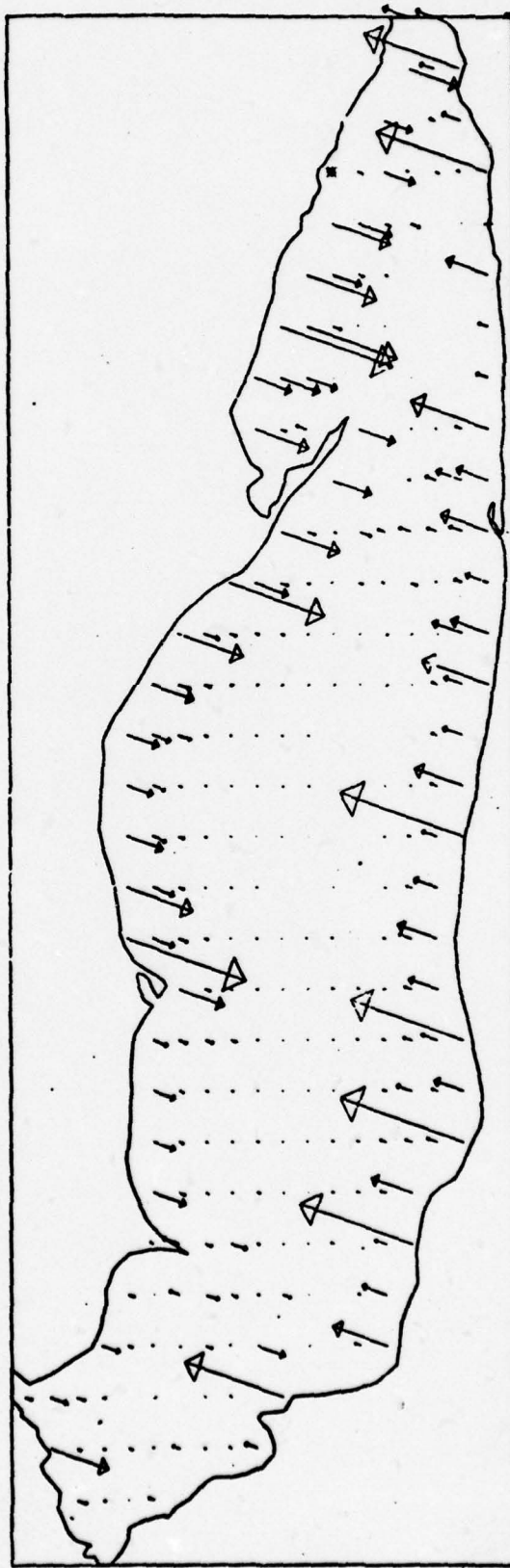


35 MPH/SE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 40.0 FT

VECTOR LENGTH = 1 FOOT/SEC = 1.0





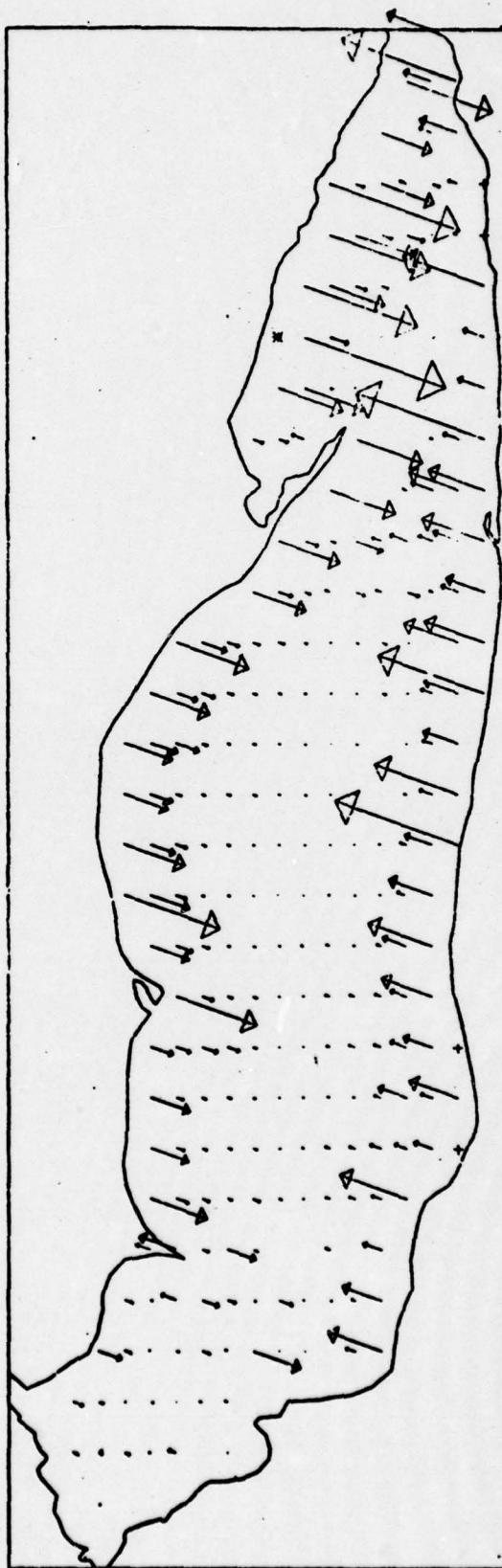
35 MPH-SE

10.0 FT

800.0

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

VECTOR LENGTH = 1 FOOT/SEC =



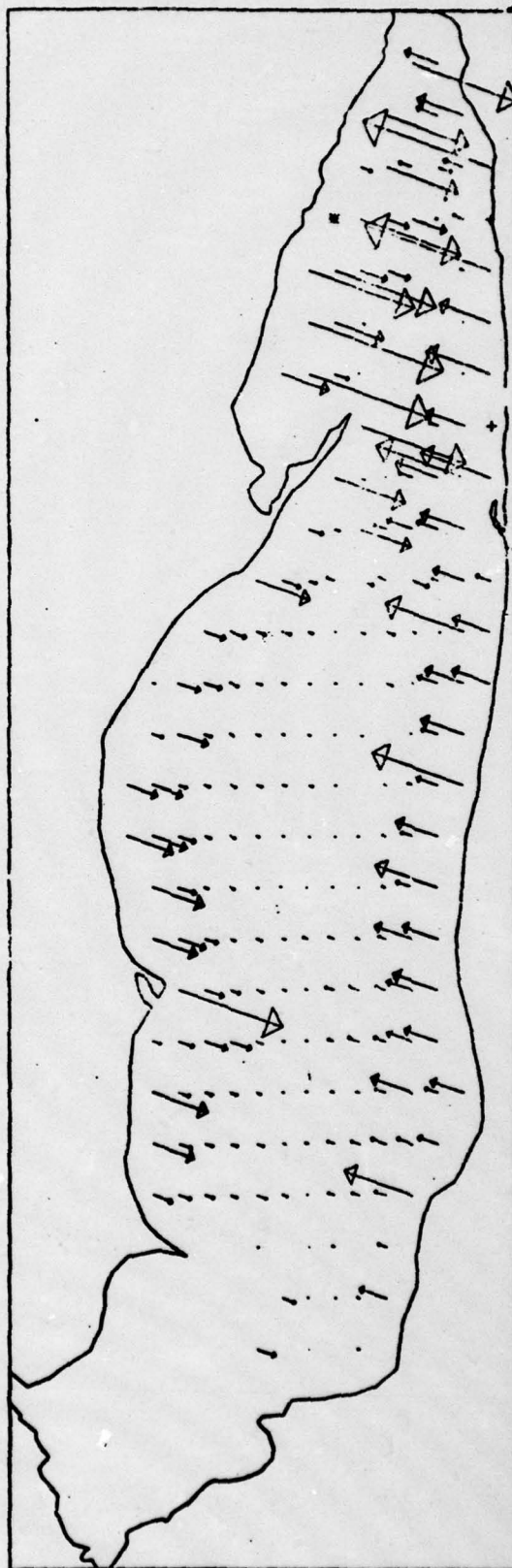
35 MPH, SE

20.0 FT

000.0

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

VECTOR LENGTH = 1 FOOT/SEC = ---



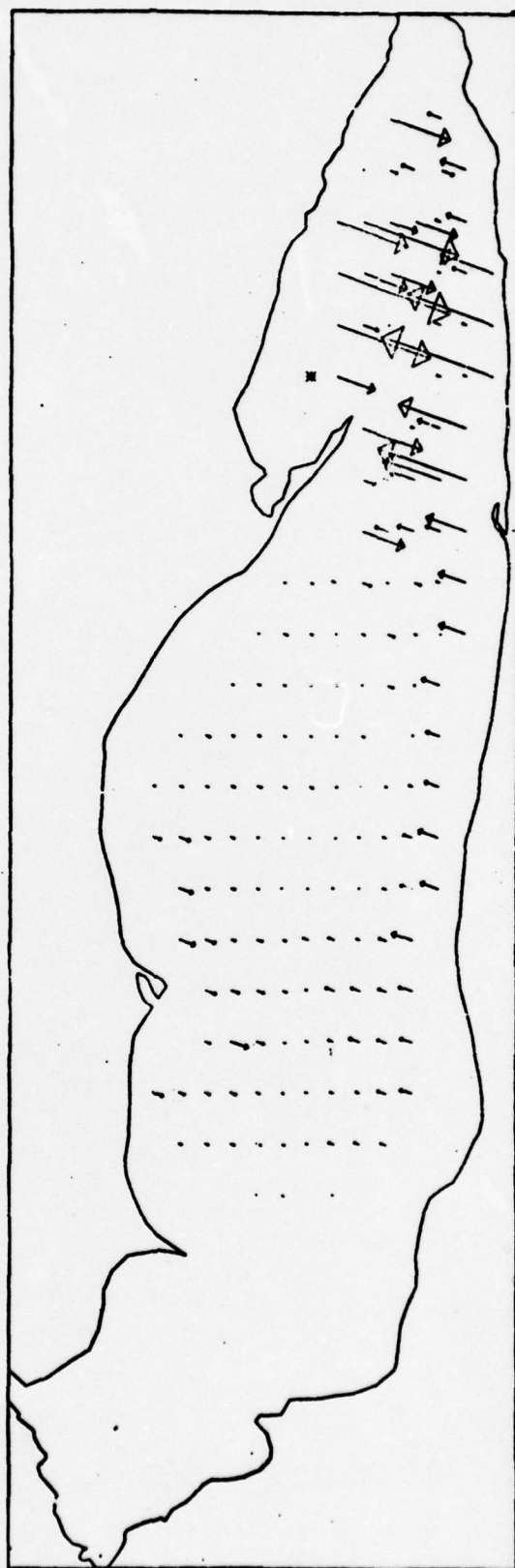
35 MPH, SE

40.0 FT

800.0

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

VECTOR LENGTH = 1 FOOT/SEC =



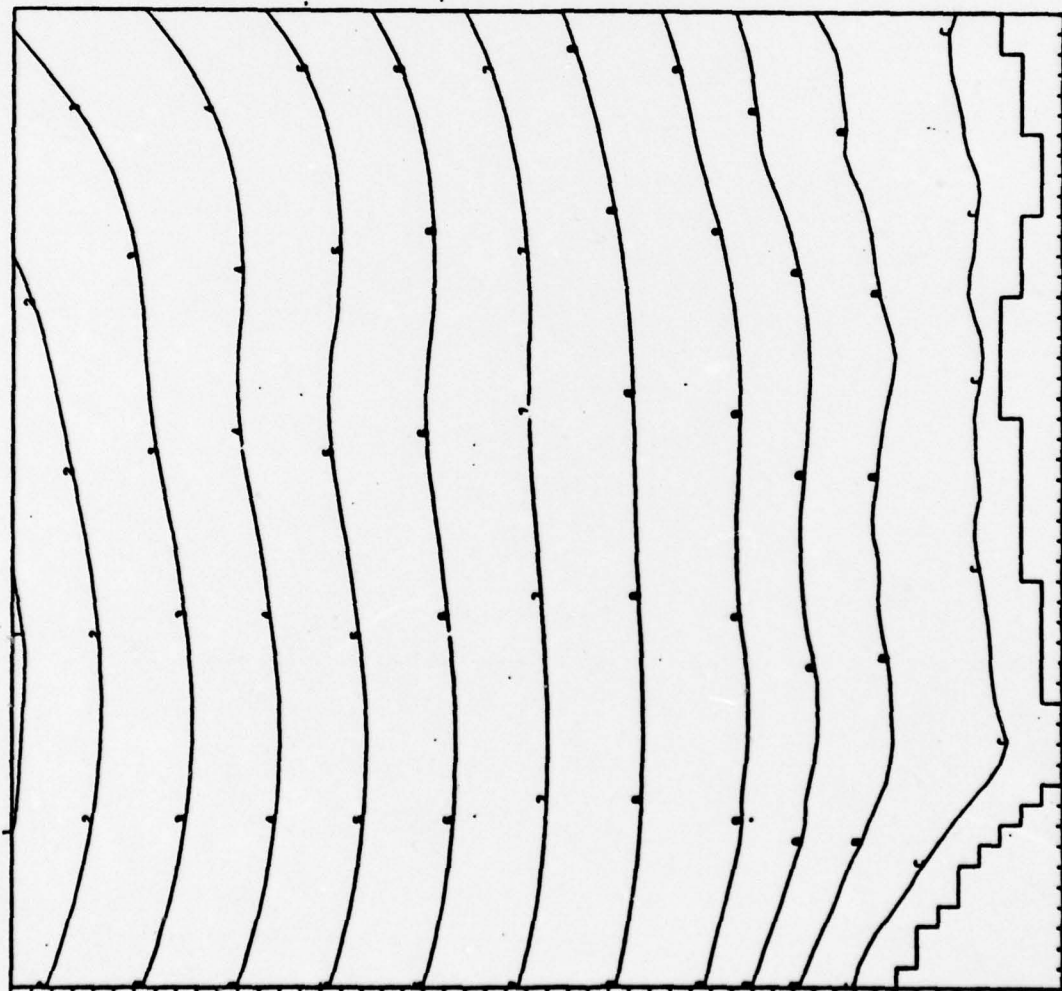
35 MPH/SE

60.0 FT

800.0

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

VECTOR LENGTH = 1 FOOT/SEC =

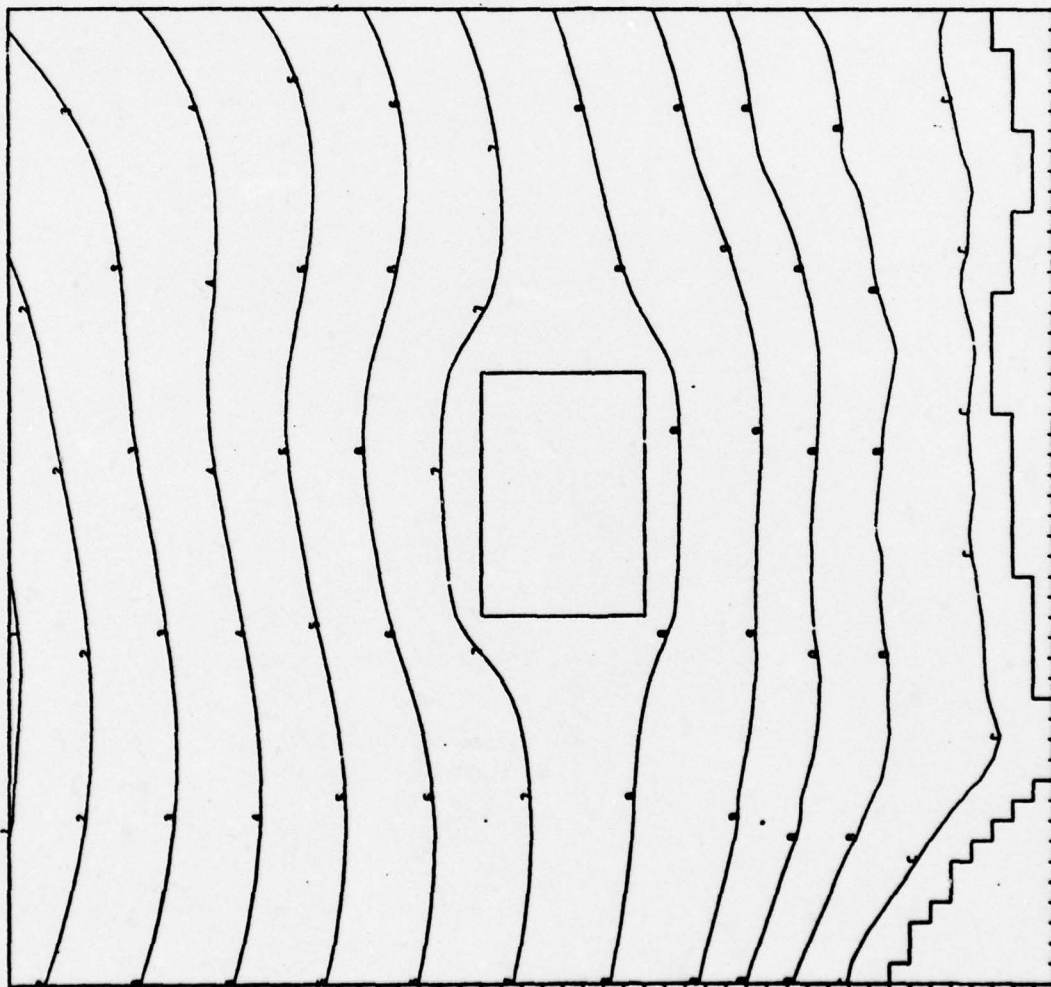


SYMBOLS
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

CONTOUR LEVELS
 -4.500
 -4.000
 -3.500
 -3.000
 -2.500
 -2.000
 -1.500
 -1.000
 -0.700
 -0.400
 -0.100

CONTOURS OF STREAM FUNCTION FOR LAKE ERIE -- NEARSHORE

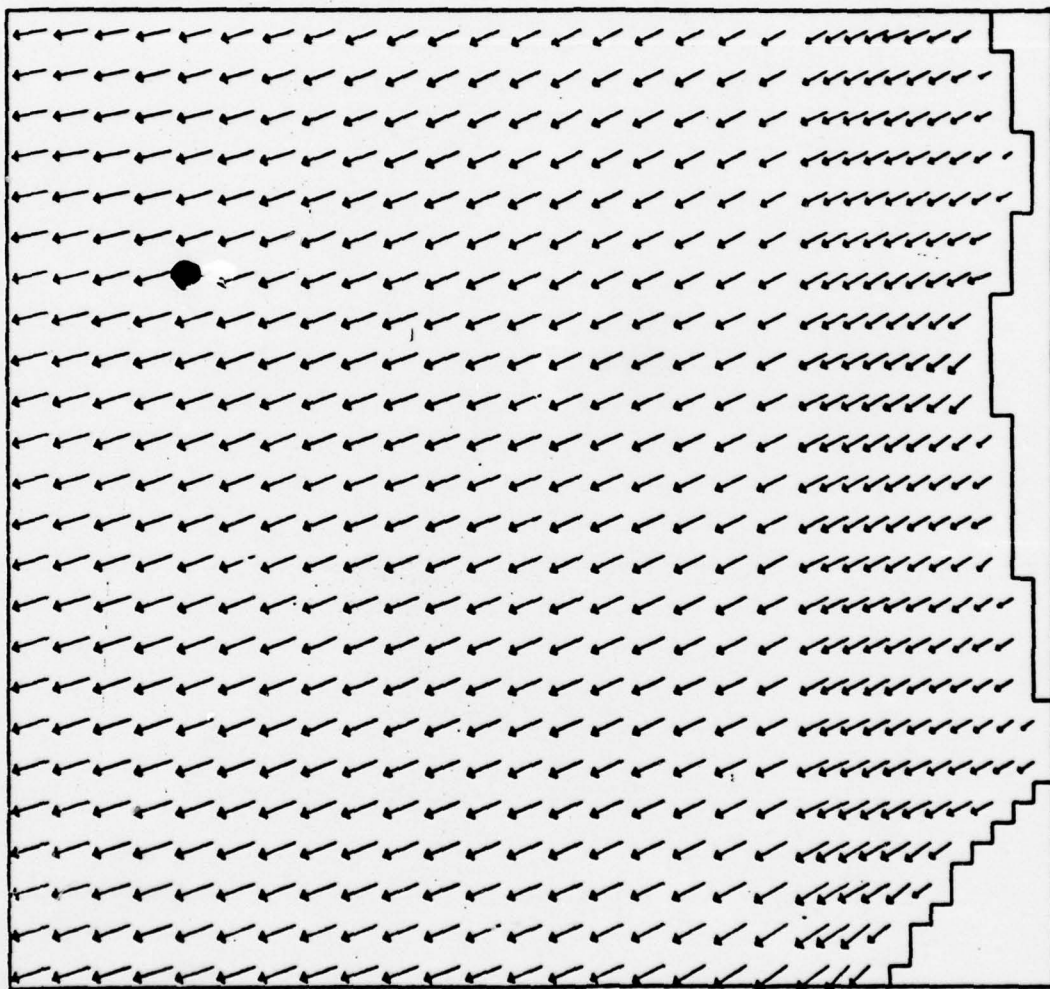
WA=35MPH, SE



SYMBOLS
 1 2 3 4 5 6 7 8 9 10 C
 CONTOUR LEVELS
 -4.900
 -4.500
 -4.000
 -3.500
 -3.000
 -2.500
 -2.000
 -1.500
 -1.000
 -0.700
 -0.400
 -0.100

WA=35MPH,SE

CONTOURS OF STREAM FUNCTION FOR LAKE ERIE -- NEARSHORE

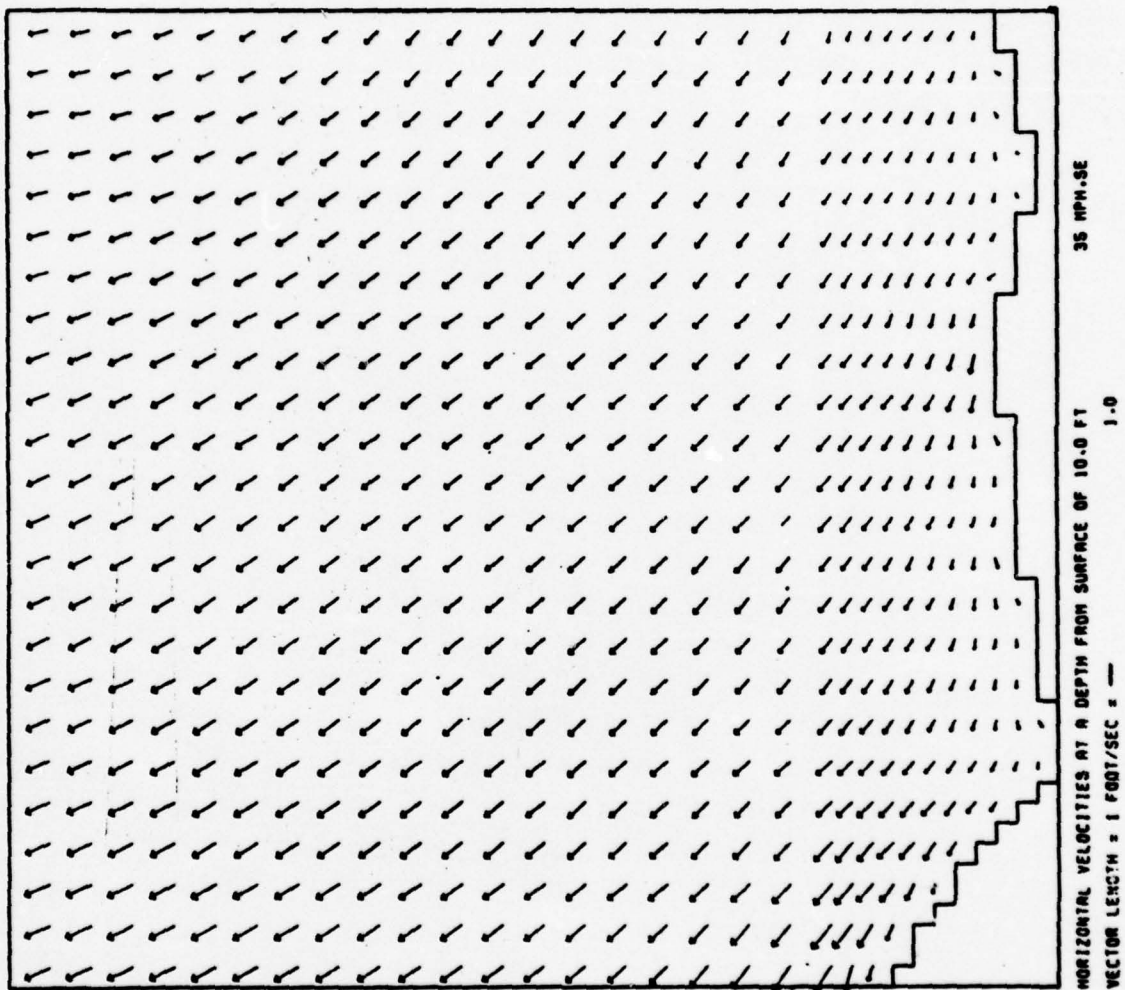


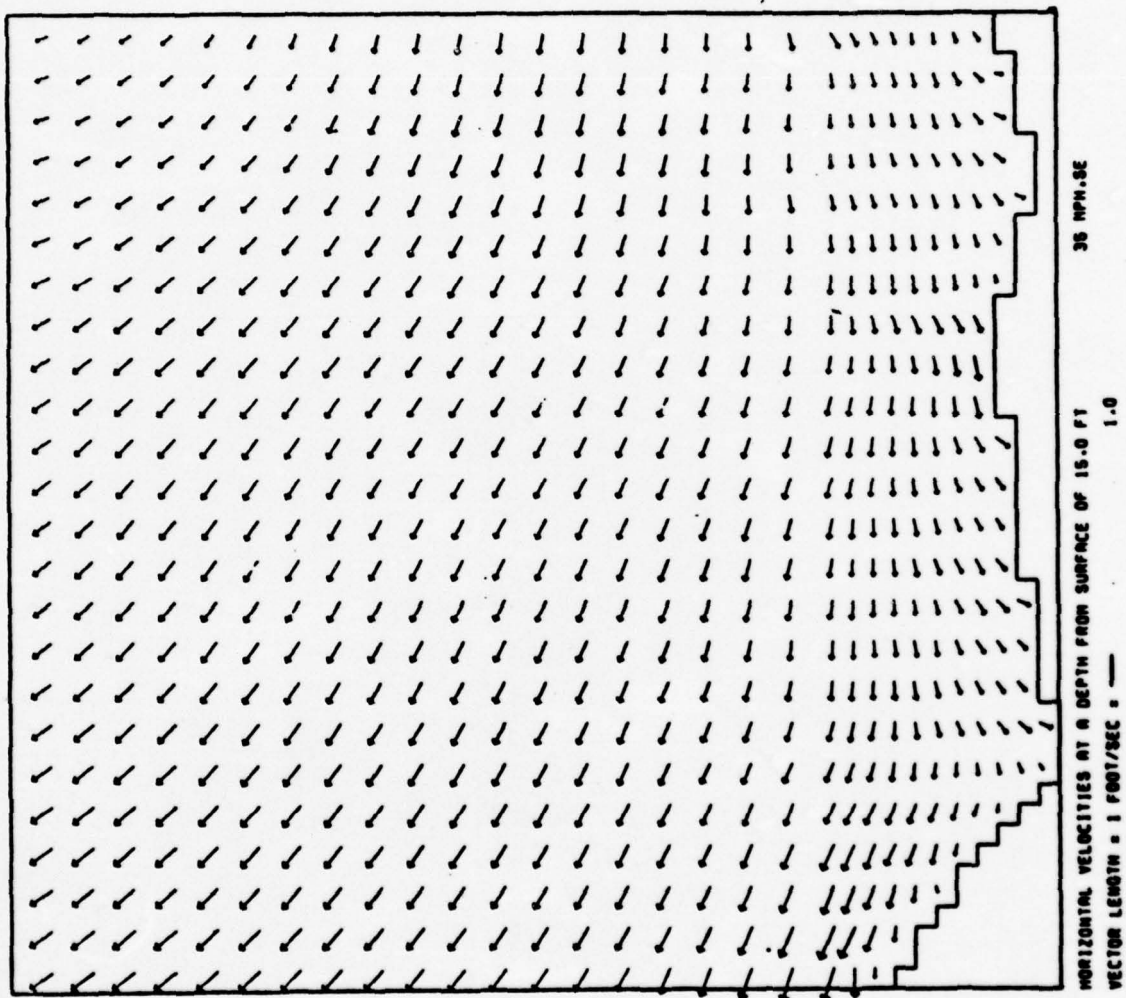
35 MPH-SE

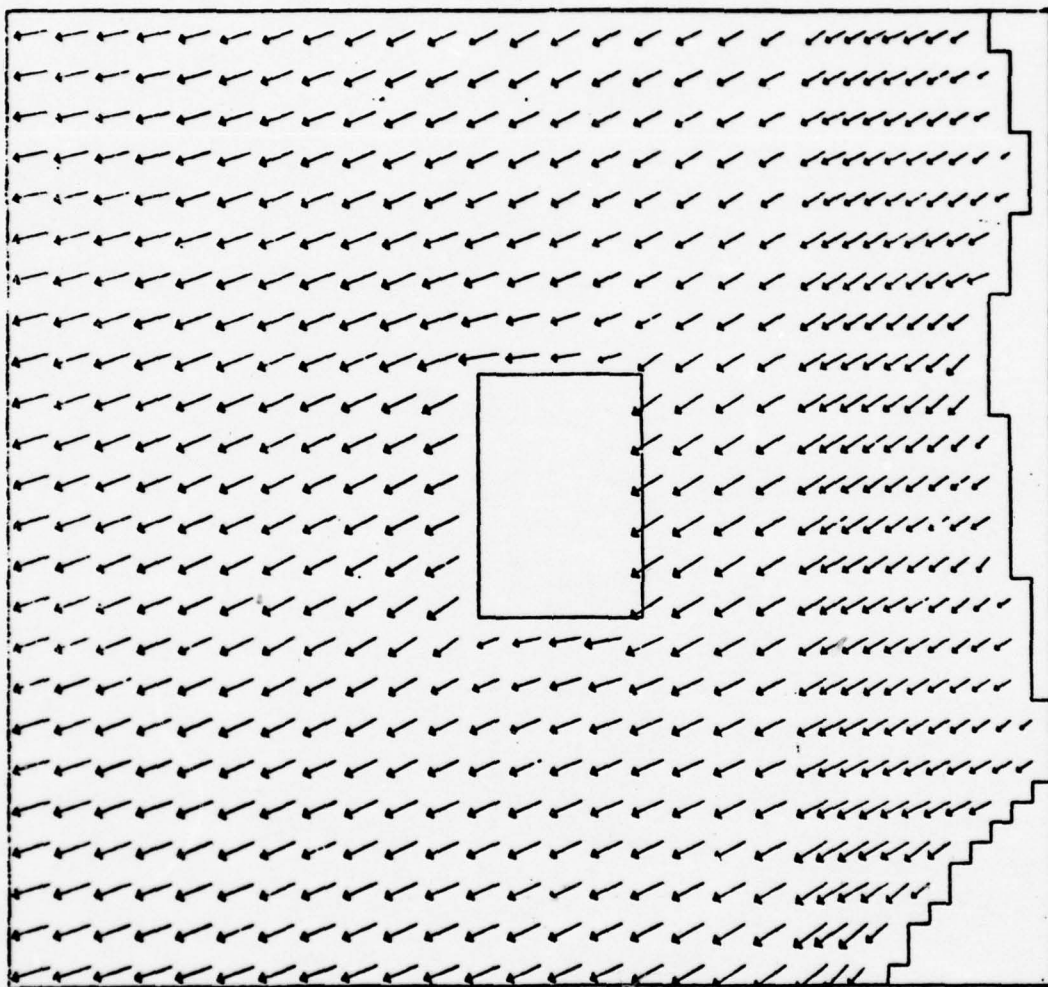
HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 0.0 FT

1.0

VECTOR LENGTH = 1 FOOT/SEC = —





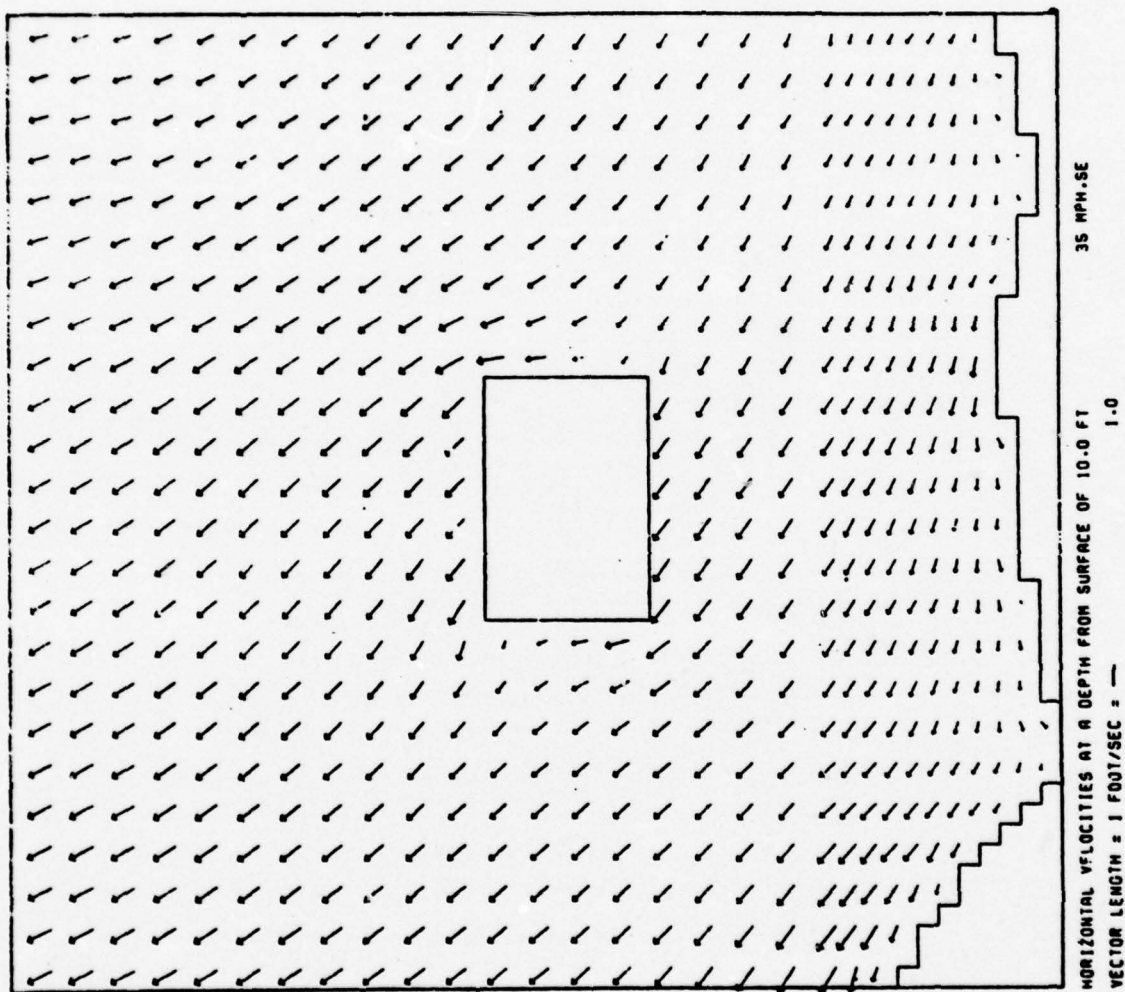


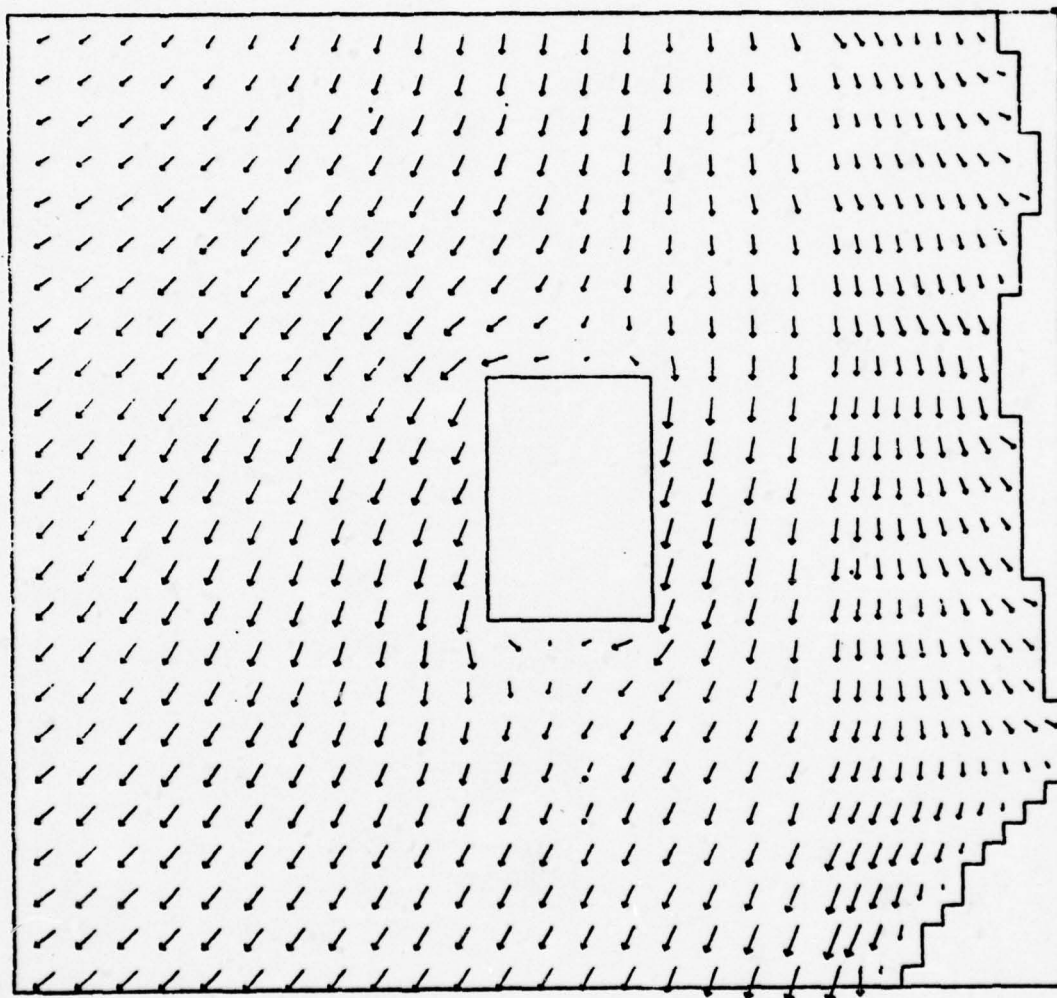
35 MPH.SE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 0.0 FT

1.0

VECTOR LENGTH = 1 FOOT/SEC = —



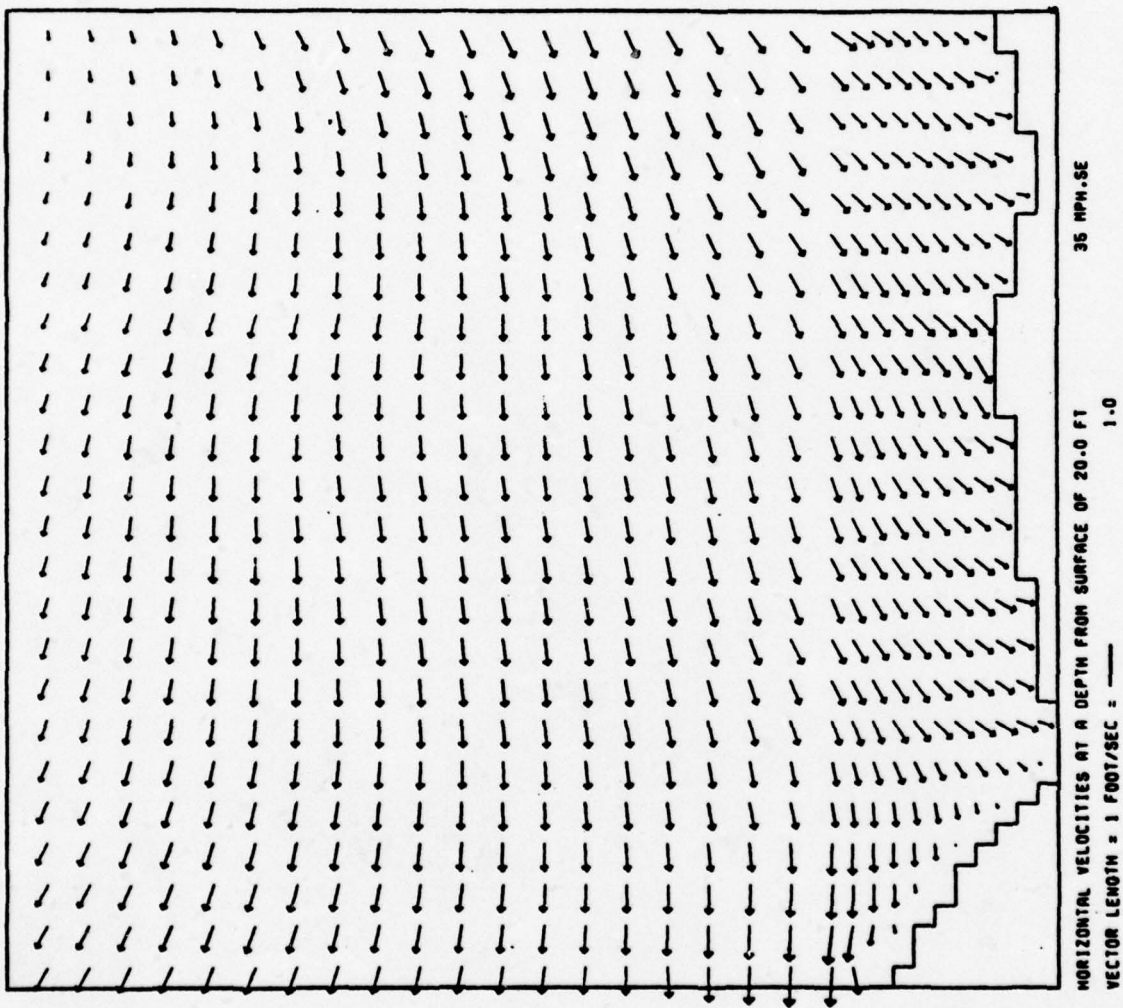


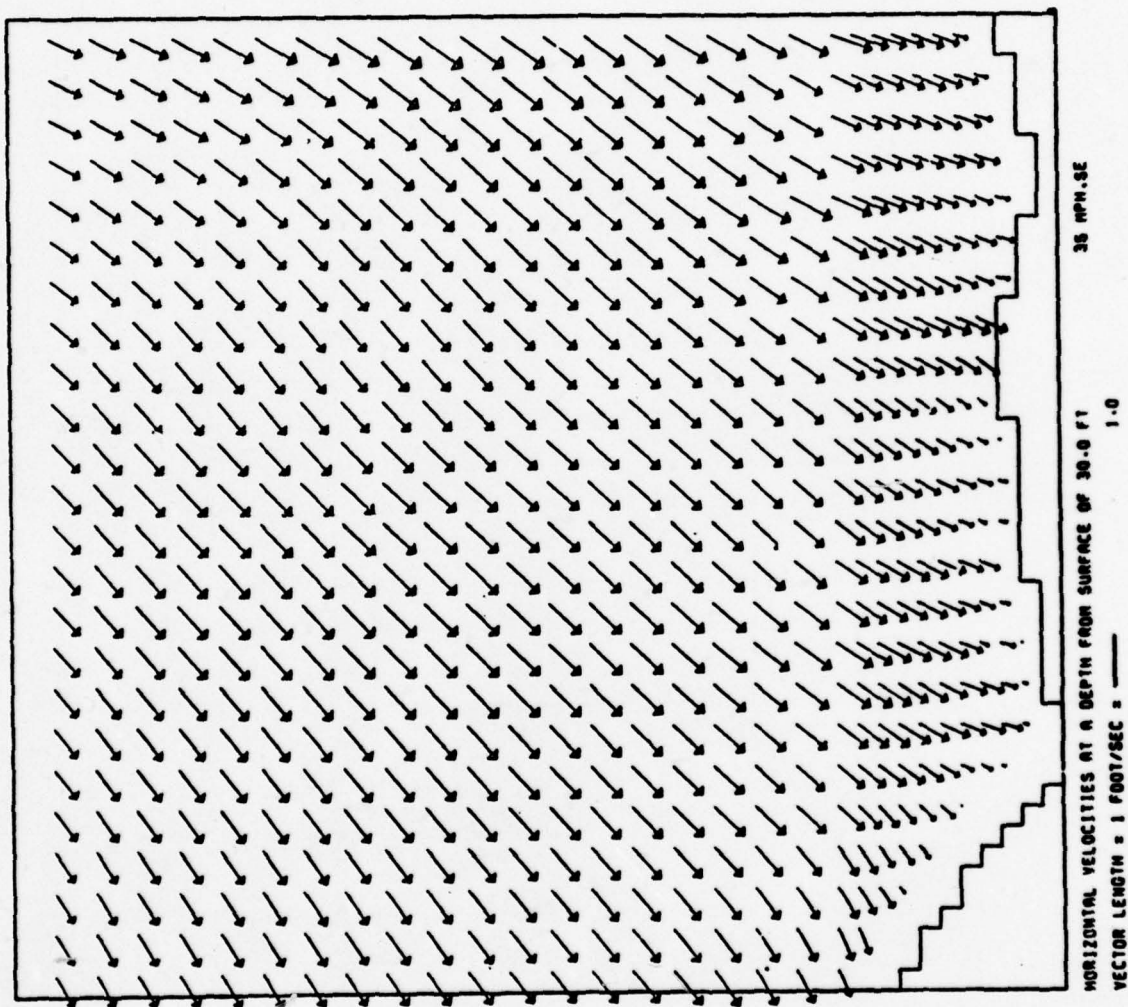
35 MPH-SE

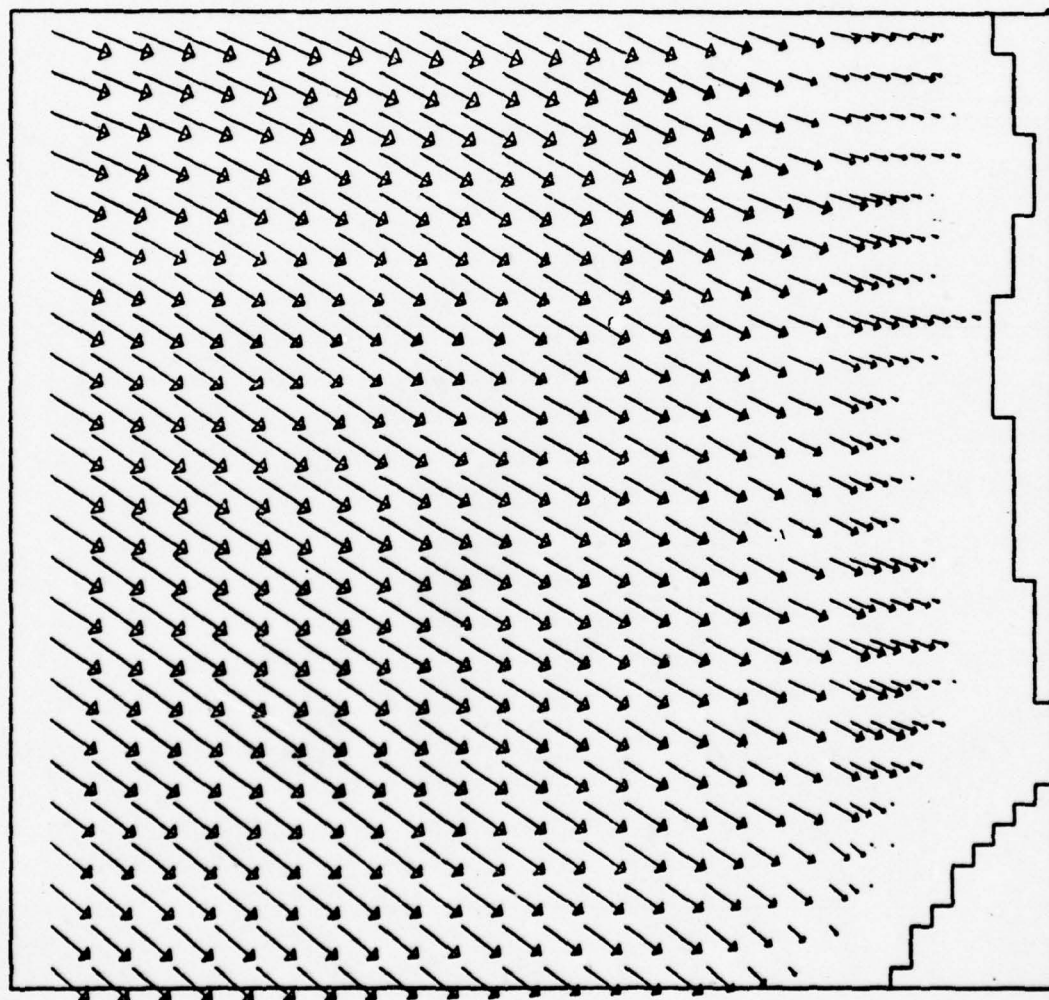
HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 15.0 FT

1.0

VECTOR LENGTH = 1 FOOT/SEC = —





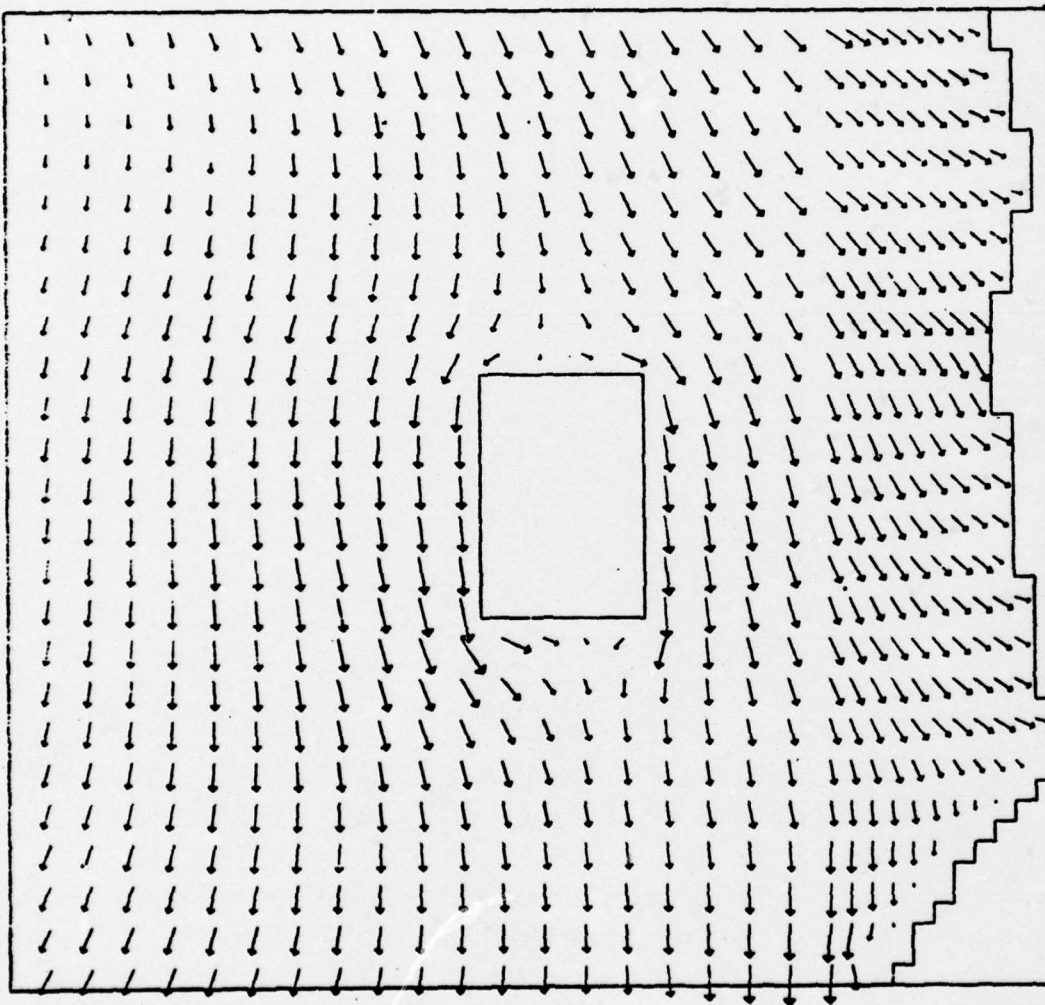


35 MPH-SE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 40.0 FT

1.0

VECTOR LENGTH = 1 FOOT/SEC =

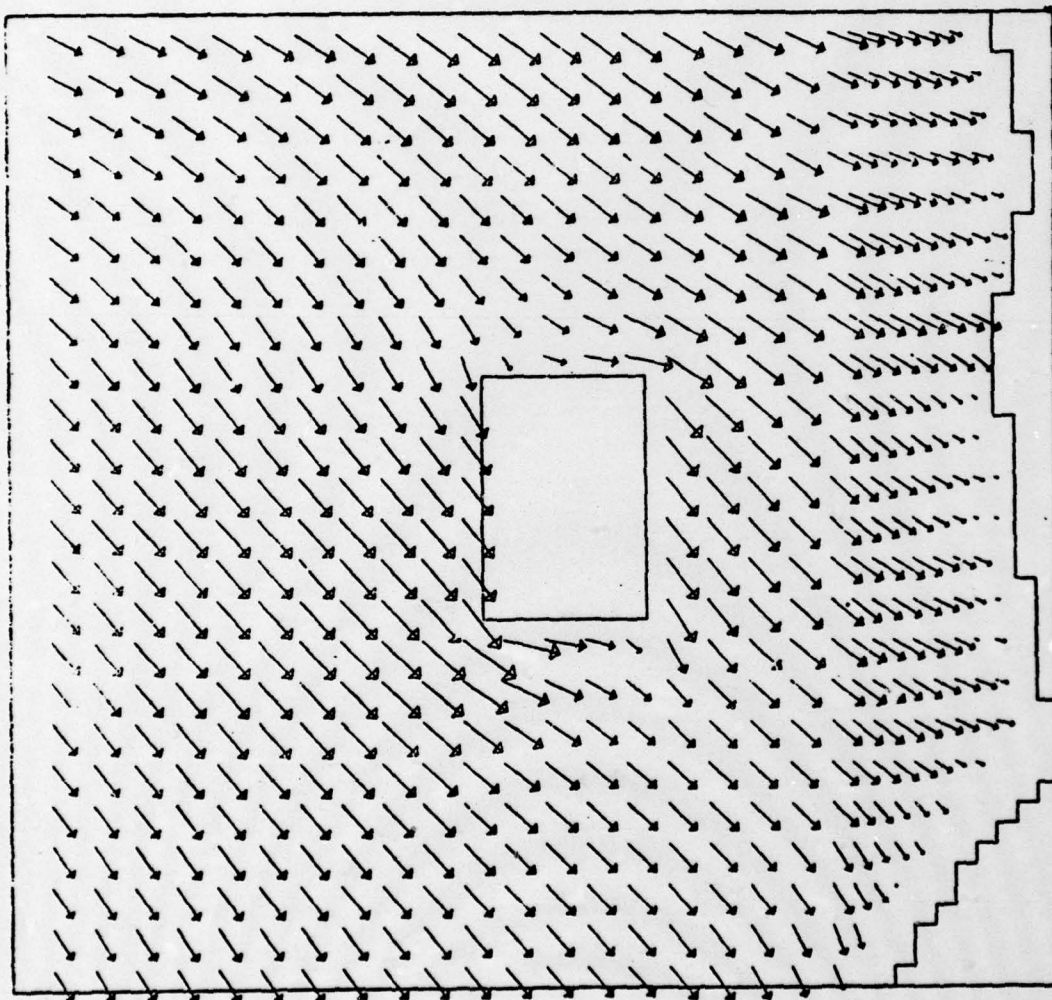


35 MPH-SE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 20.0 FT

1.0

VECTOR LENGTH = 1 FOOT/SEC = ———

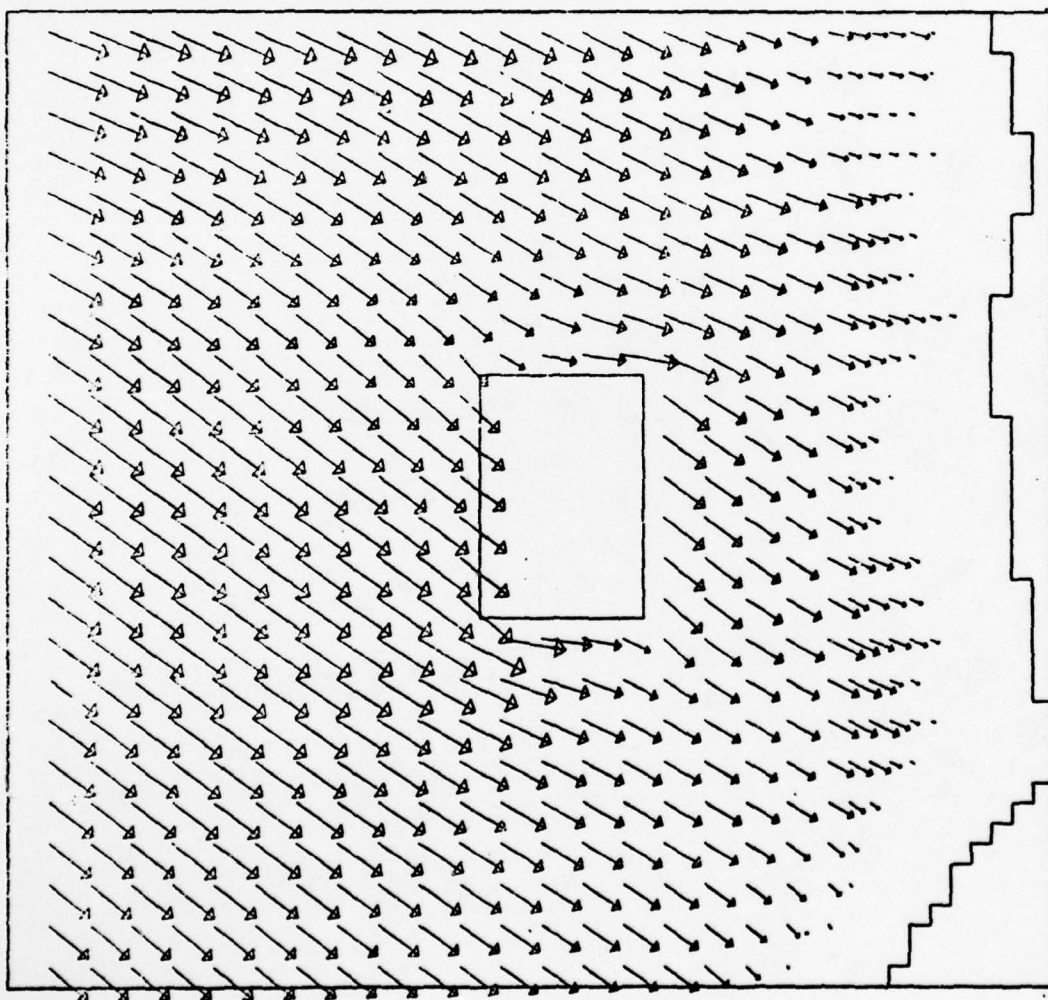


35 MPH, SE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 30.0 FT

1.0

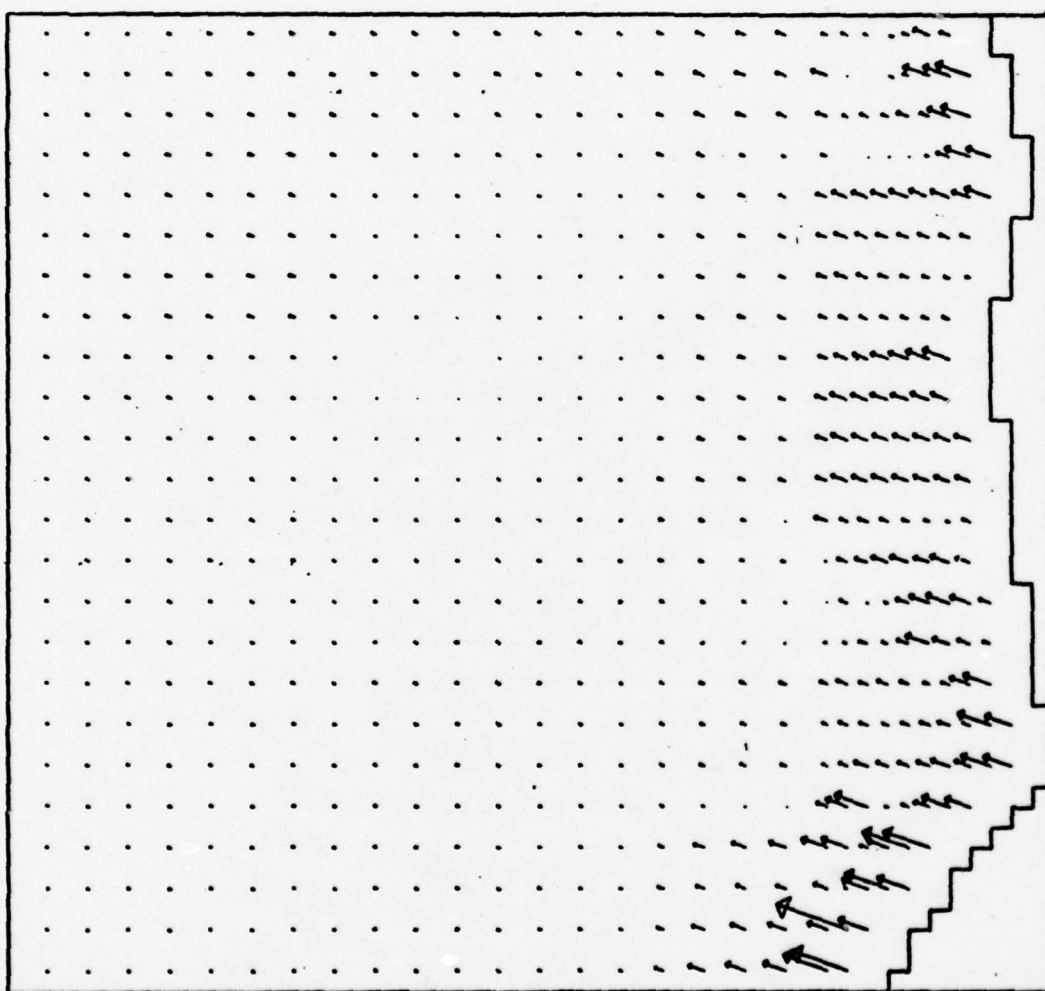
VECTOR LENGTH = 1 FOOT/SEC = —



35 MPH, SE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 40.0 FT

VECTOR LENGTH = 1 FOOT/SEC = 1.0



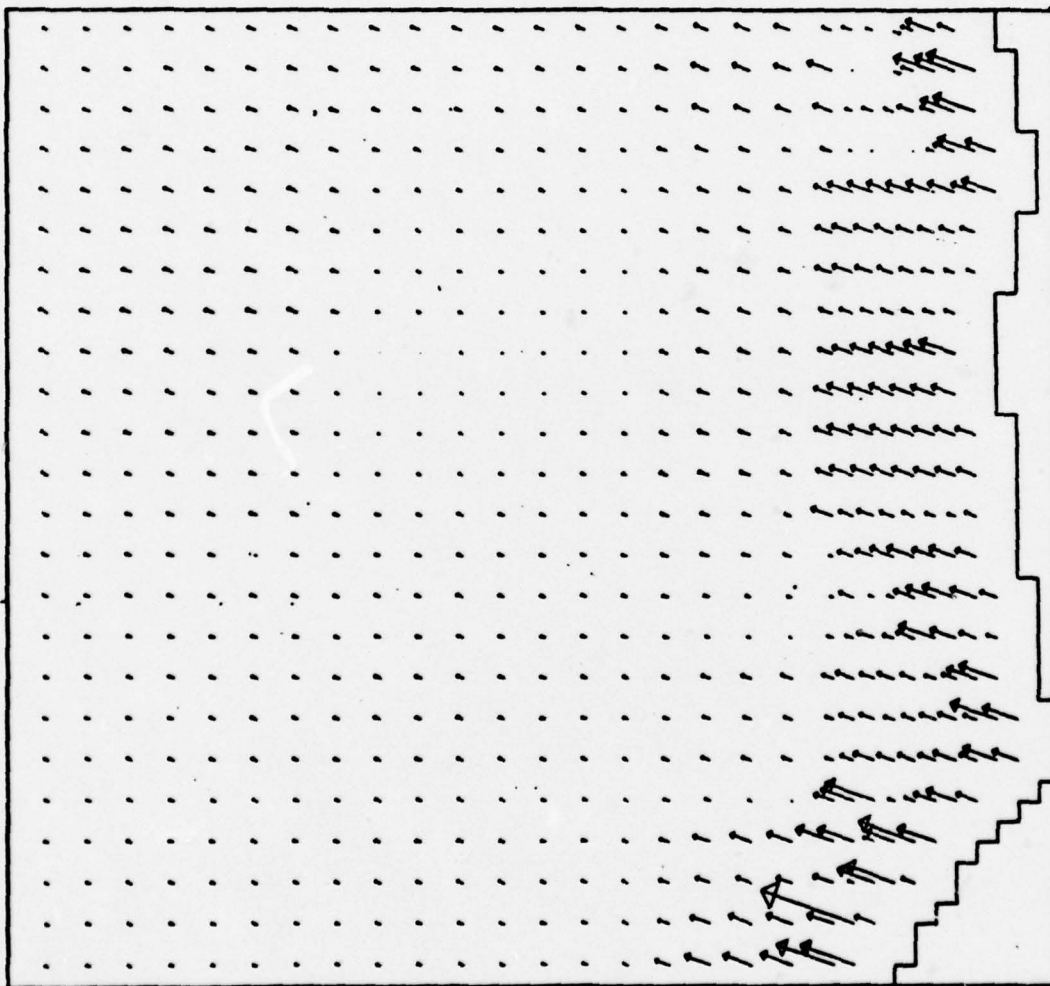
35 MPH SE

10.0 FT

250.0

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

VECTOR LENGTH = 1 FOOT/SEC =



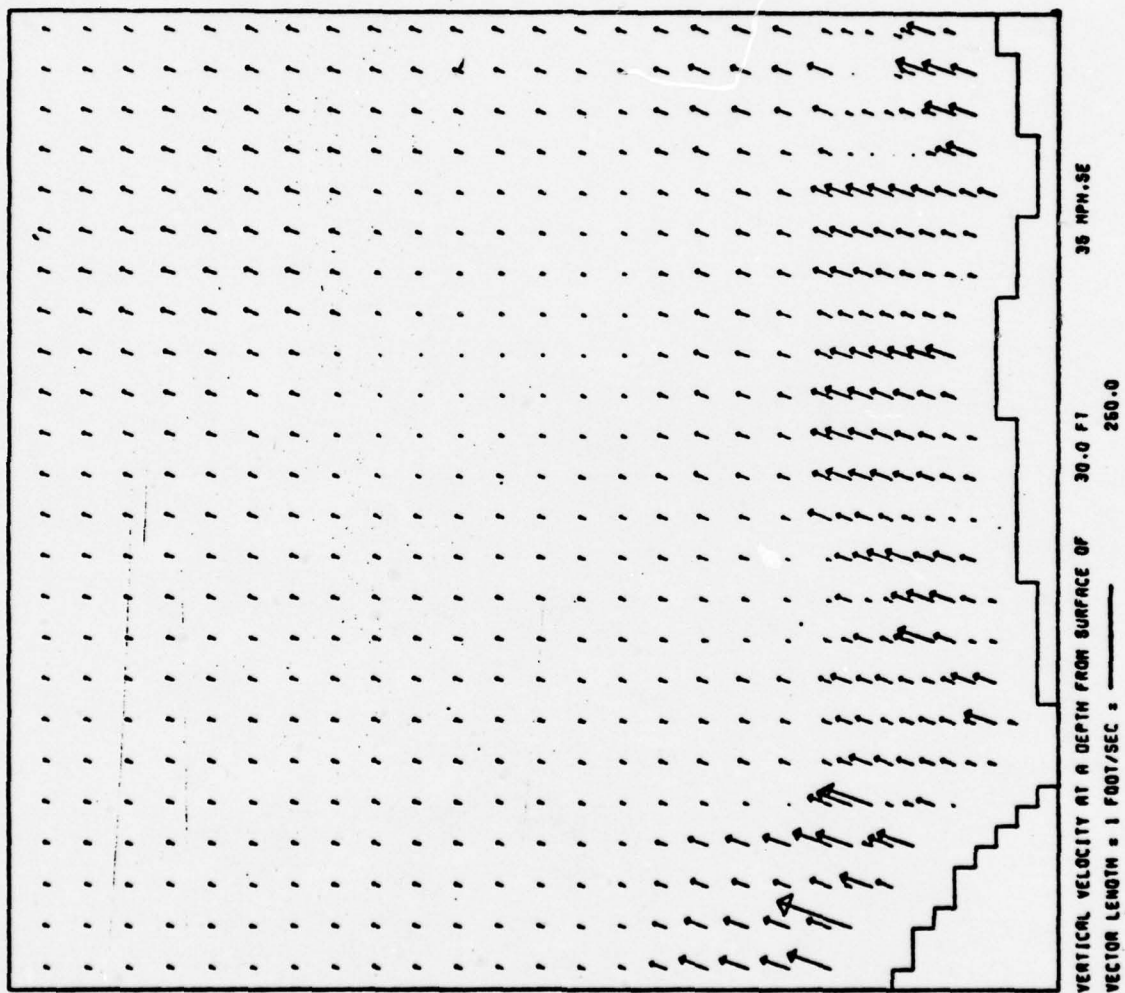
35 MPH.SE

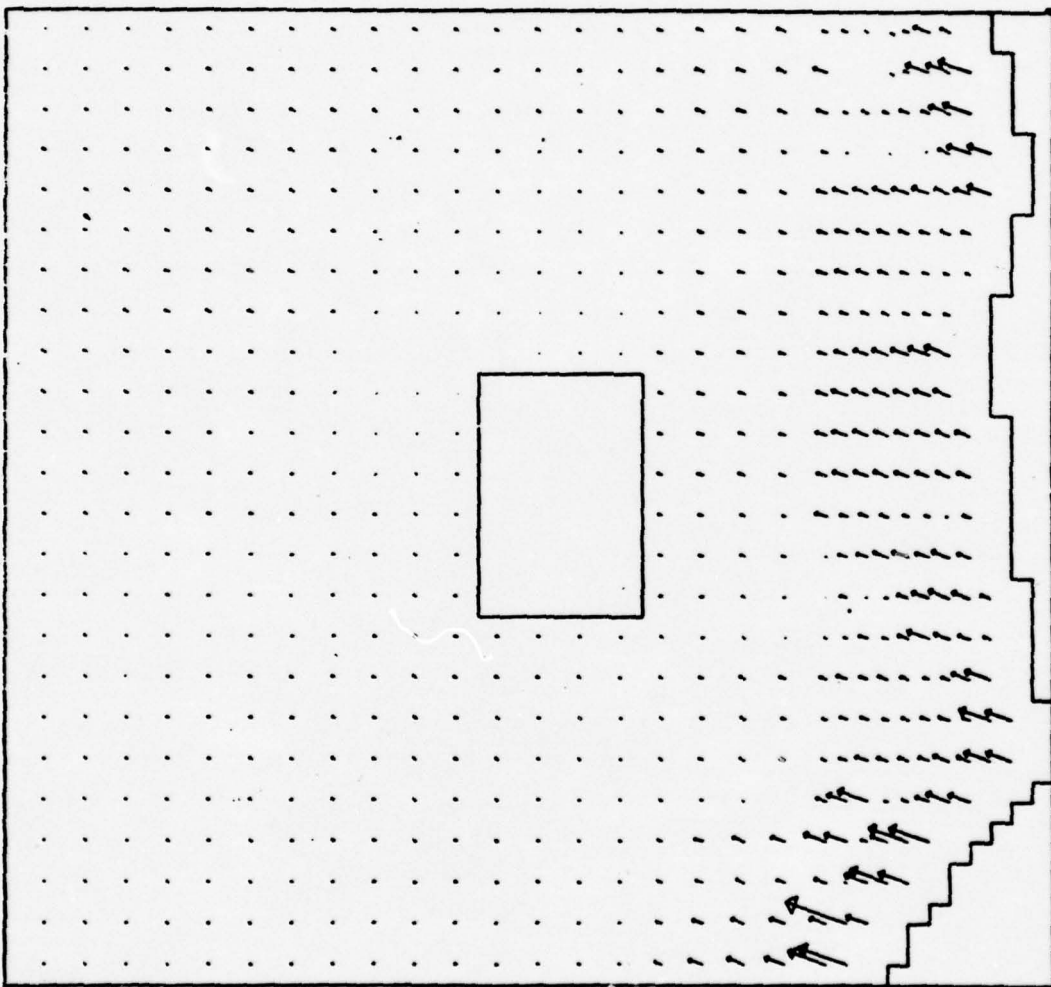
20.0 FT

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

250.0

VECTOR LENGTH = 1 FOOT/SEC =





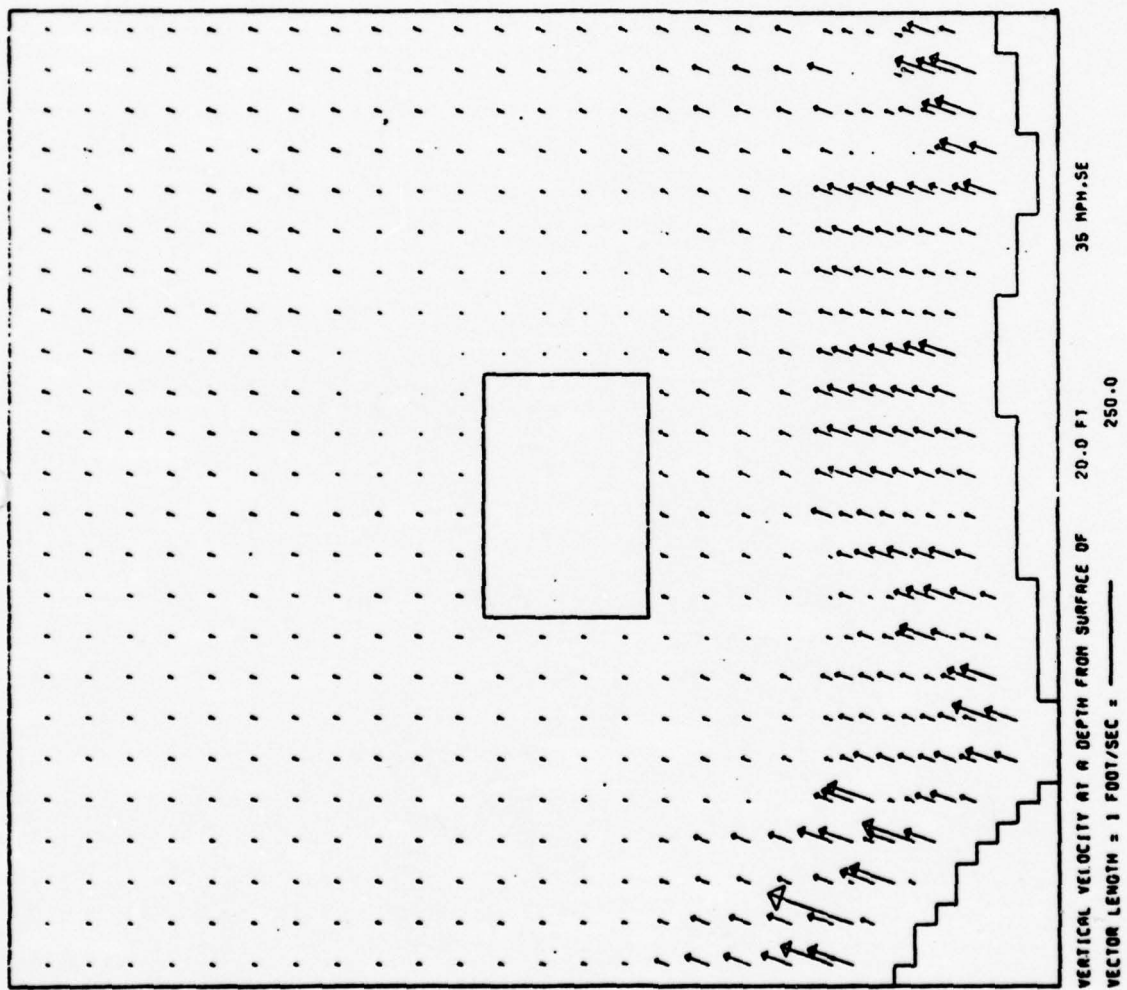
35 MPH SE

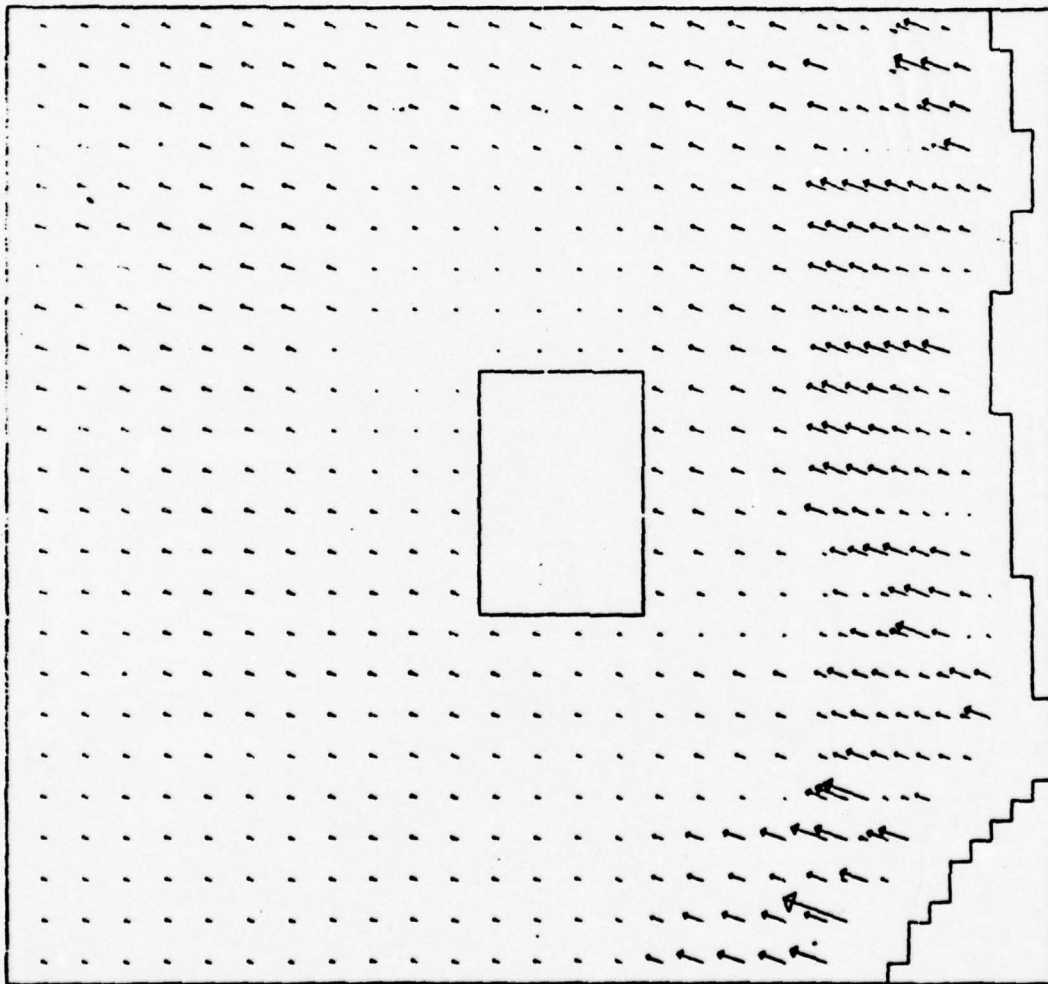
10.0 FT

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

VECTOR LENGTH = 1 FOOT/SEC =

250.0



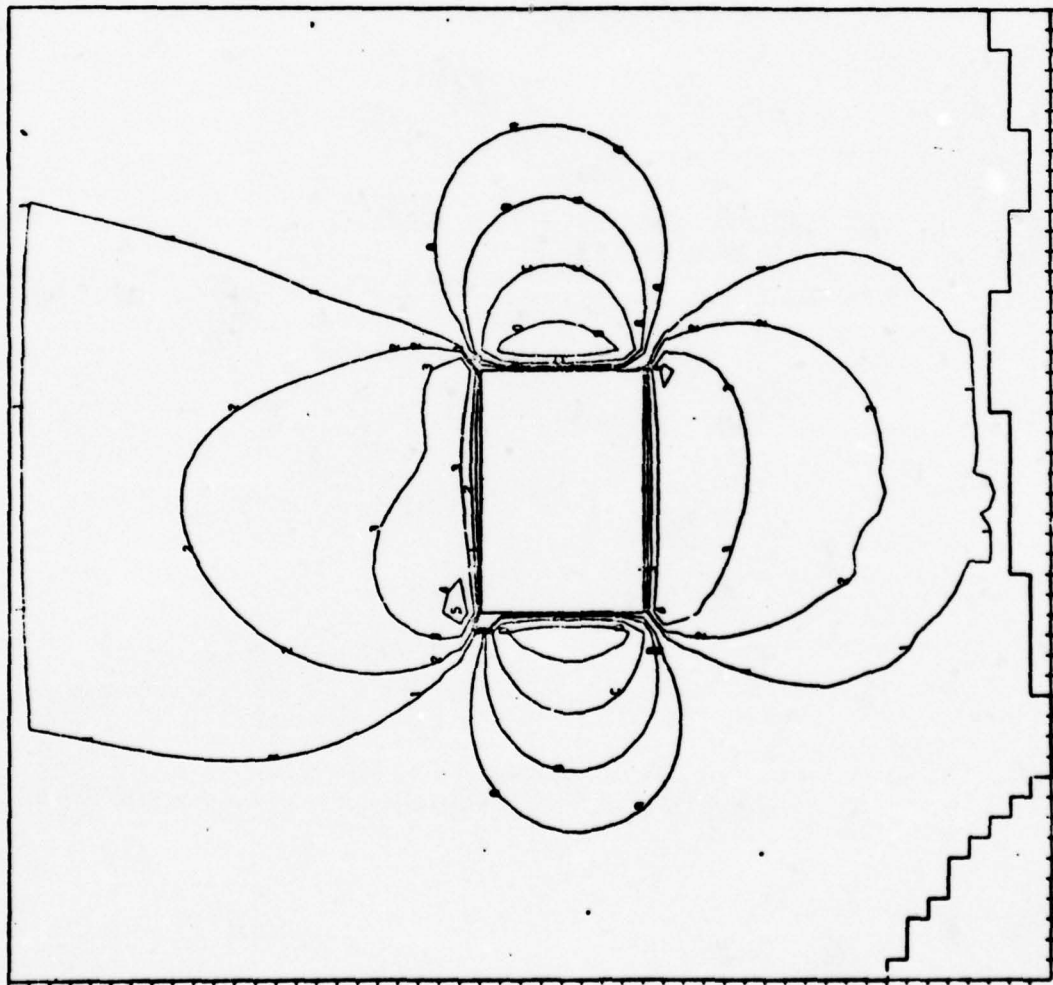


35 MPH.SE

30.0 FT
250.0

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

VECTOR LENGTH = 1 FOOT/SEC =

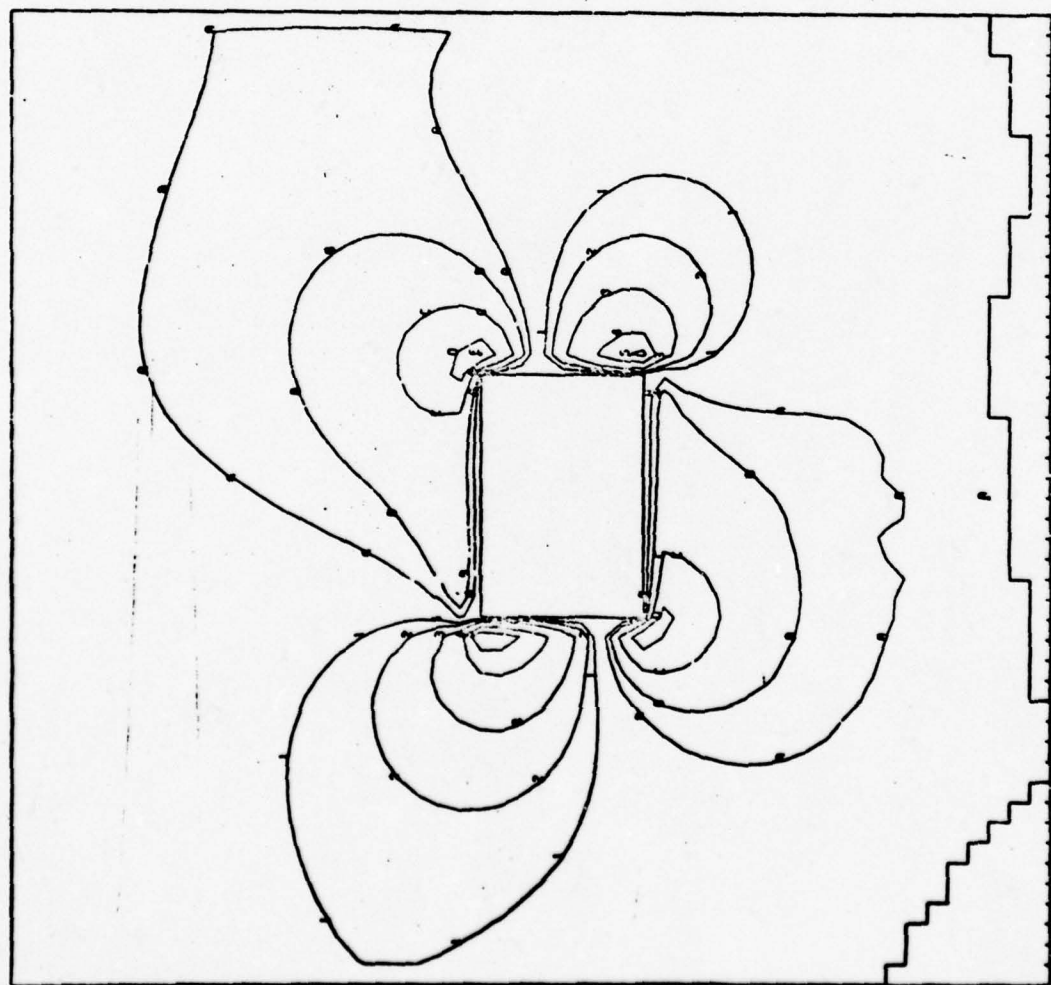


SYMBOLS CONTOUR LEVELS

1	0.000
2	0.100
3	0.200
4	0.300
5	0.400
6	0.500
7	0.600
8	0.700
9	0.800
10	0.900
11	1.000
12	1.100
13	1.200
14	1.300
15	1.400
16	1.500
17	1.600
18	1.700
19	1.800
20	1.900
21	2.000

CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

U.D=0.N=3SSE

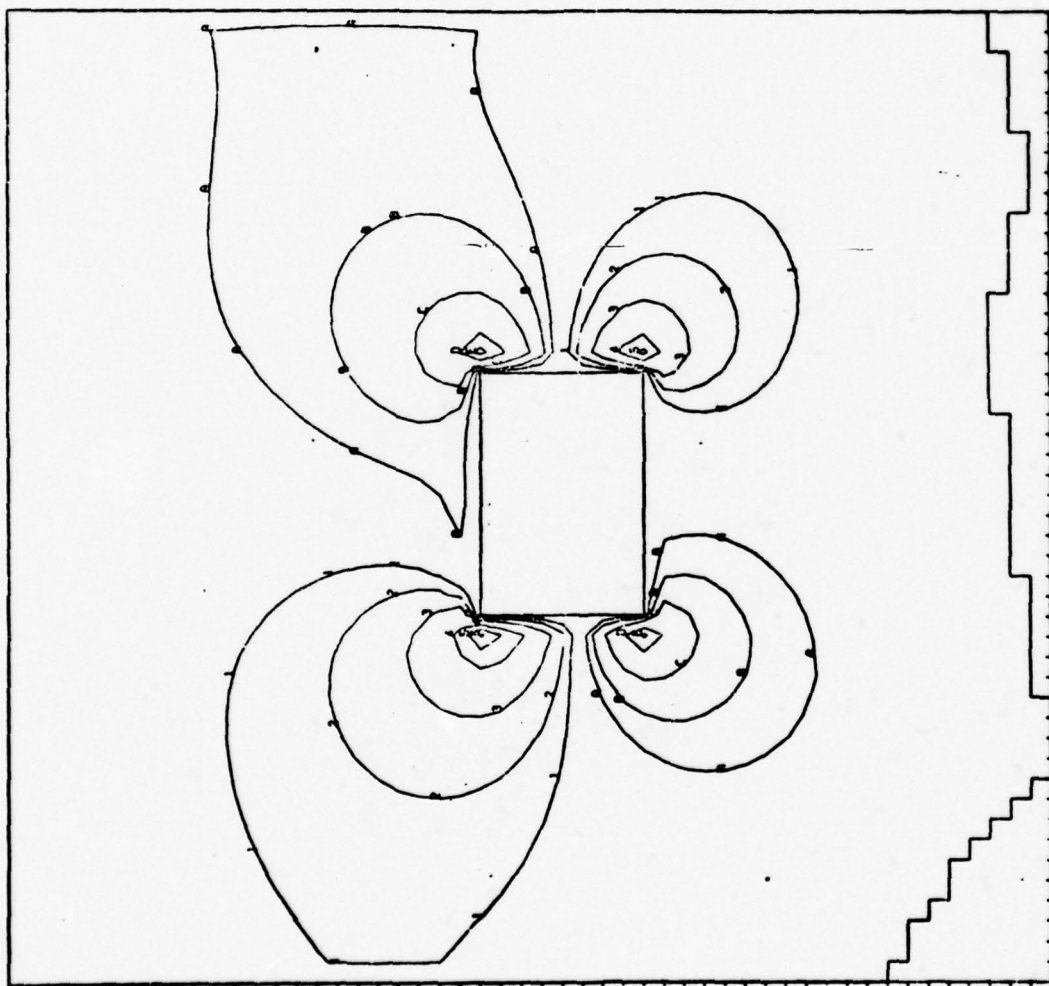


SYMBOLS
 - 2 0 7 M D 0 8 7 2 6 8 1 9 5 4 2 N -
 CONTOUR LEVELS
 0.050
 0.100
 0.150
 0.200
 0.250
 0.300
 0.350
 0.400
 0.450
 0.500
 0.550
 0.600
 0.650
 0.700
 0.750
 0.800
 0.850
 0.900
 0.950
 1.000
 1.050
 1.100
 1.150
 1.200
 1.250
 1.300
 1.350
 1.400
 1.450
 1.500
 1.550
 1.600
 1.650
 1.700
 1.750
 1.800
 1.850
 1.900
 1.950
 2.000

M.D=0.M=35SE

CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

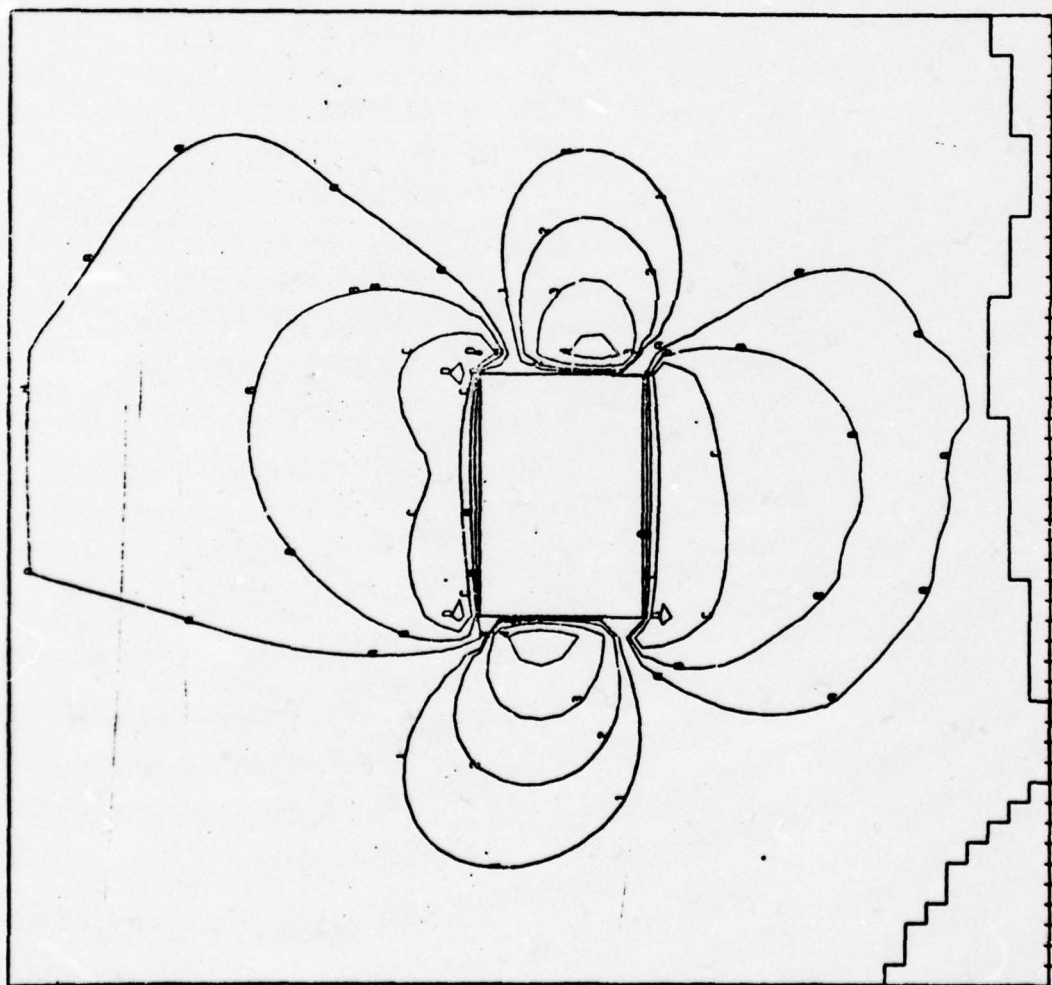
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STOBS
1-234567890101112131415161718192021222324252627282930313233343536373839404142434445464748495051525354555657585960616263646566676869707172737475767778798081828384858687888990919293949596979899100

Symbols

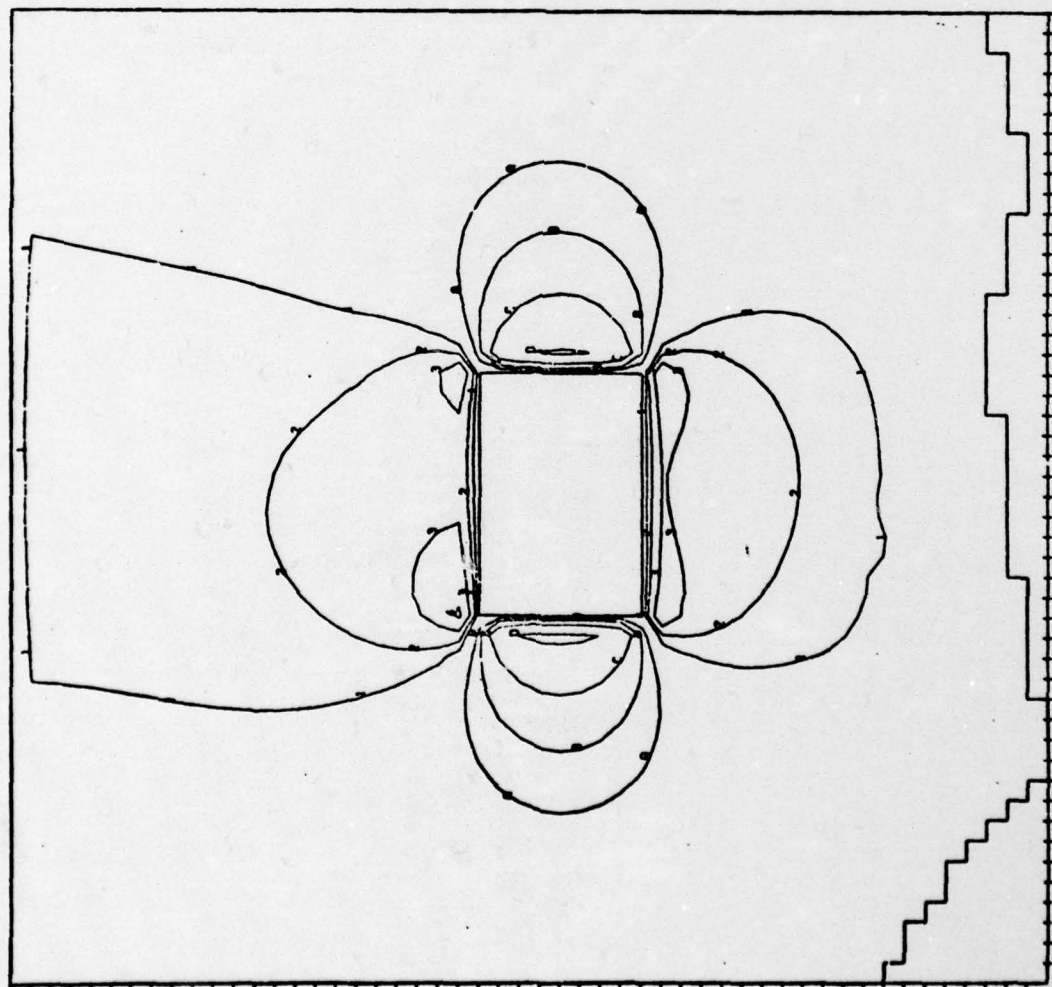
[illegible]

-അനുസ്മരണദിനപത്രം-



CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

$$M.O = 15. W = 35SE$$



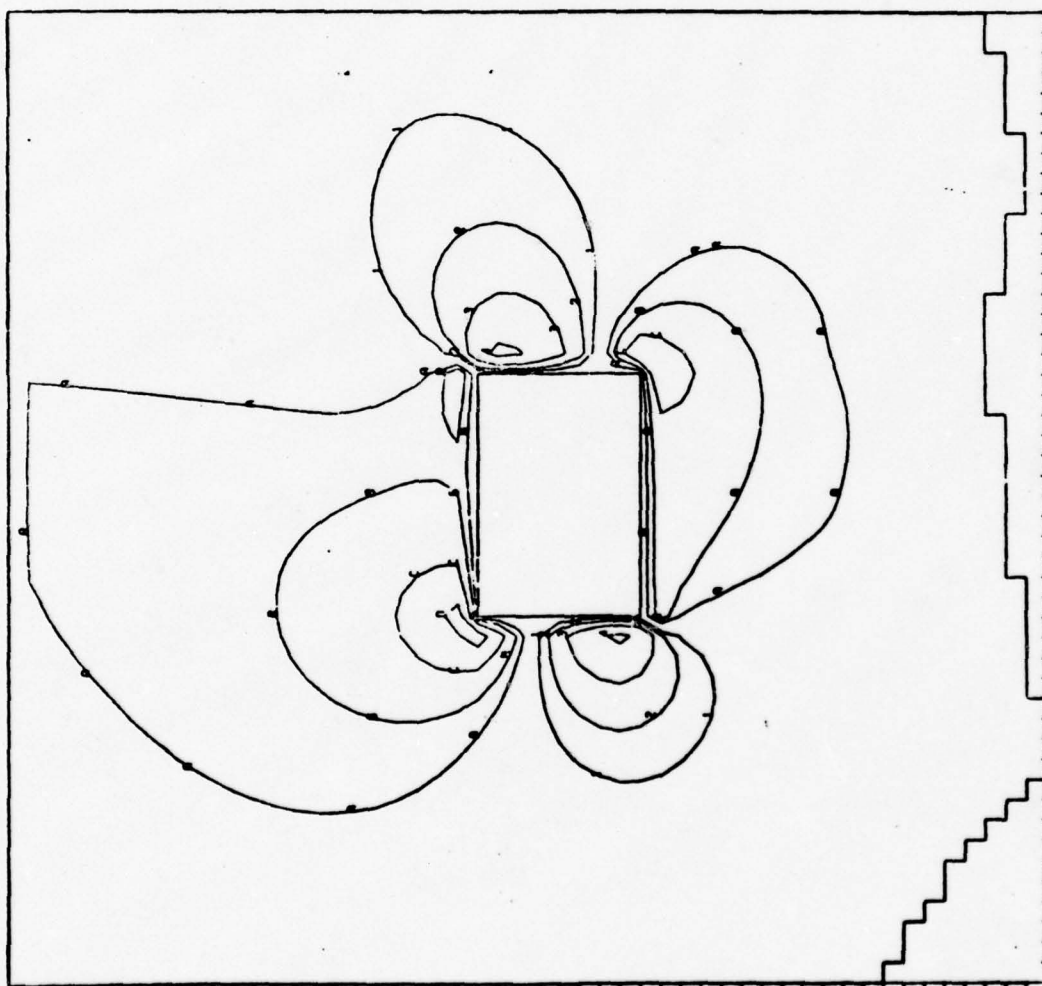
SYMBOLS
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

CONTOUR LEVELS
 0.500
 0.400
 0.300
 0.200
 0.100
 0.000
 -0.100
 -0.200
 -0.300
 -0.400
 -0.500
 -0.600
 -0.700
 -0.800
 -0.900
 -1.000
 -1.100
 -1.200
 -1.300
 -1.400
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 -1.700
 -1.800
 -1.900
 -2.000

U.D=30.W=35SE

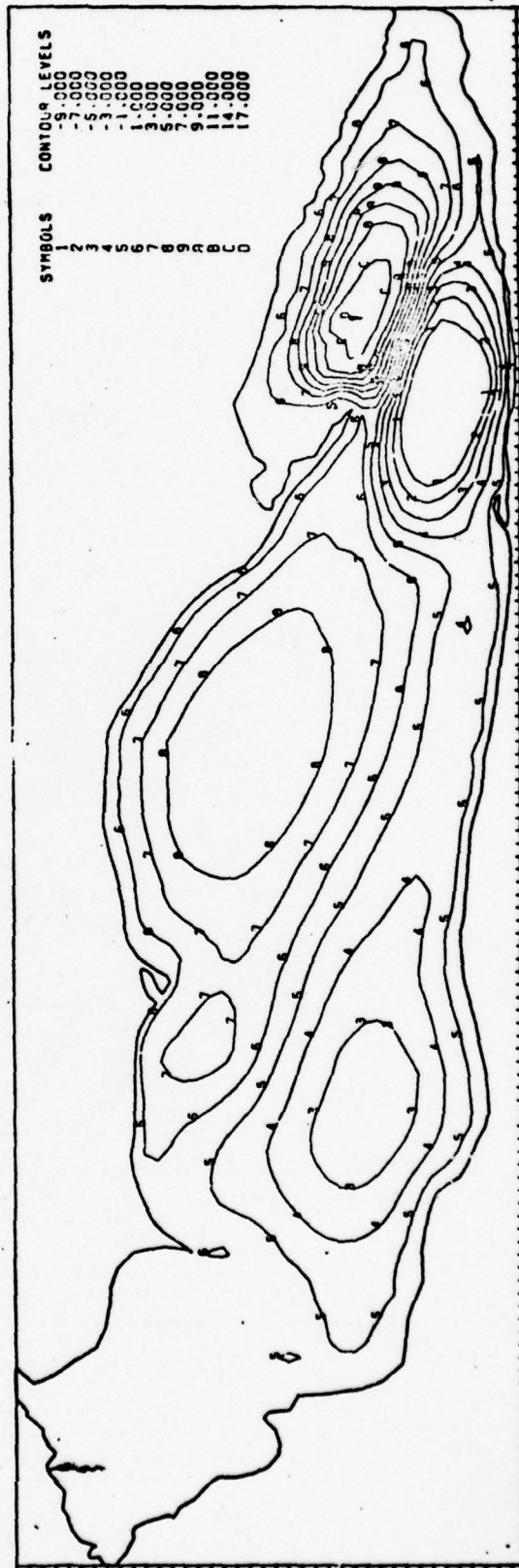
CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

SYMBOLS

[illegible]

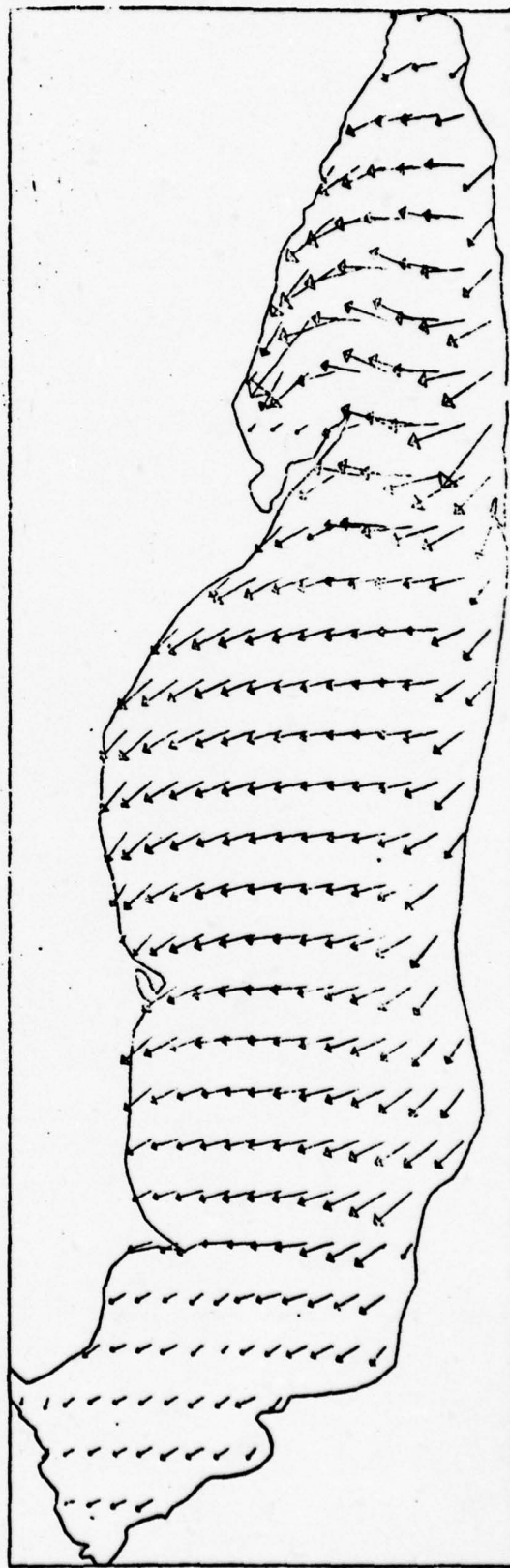
CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

$$M.O = 30.W = 35SE$$



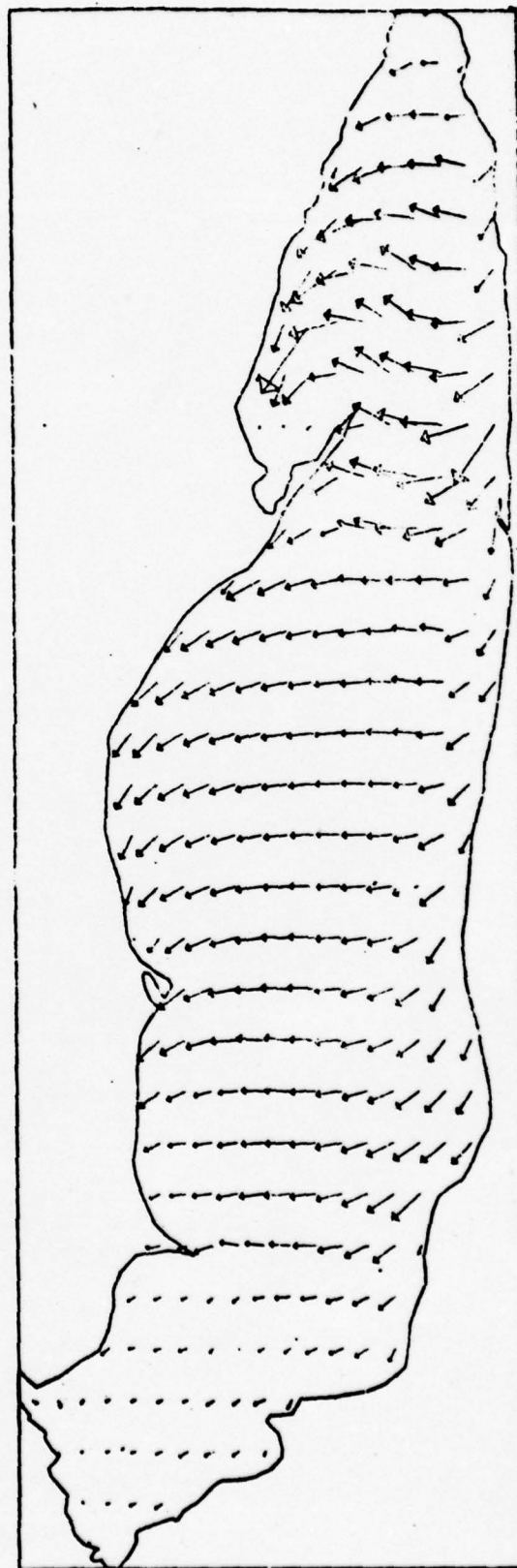
WA-35MPH.ESE

CONTOURS OF STREAM FUNCTION FOR LAKE ERIE -- FULL LAKE



35 MPH.ESE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 0.0 FT
VECTOR LENGTH = 1 FOOT/SEC = 1.0

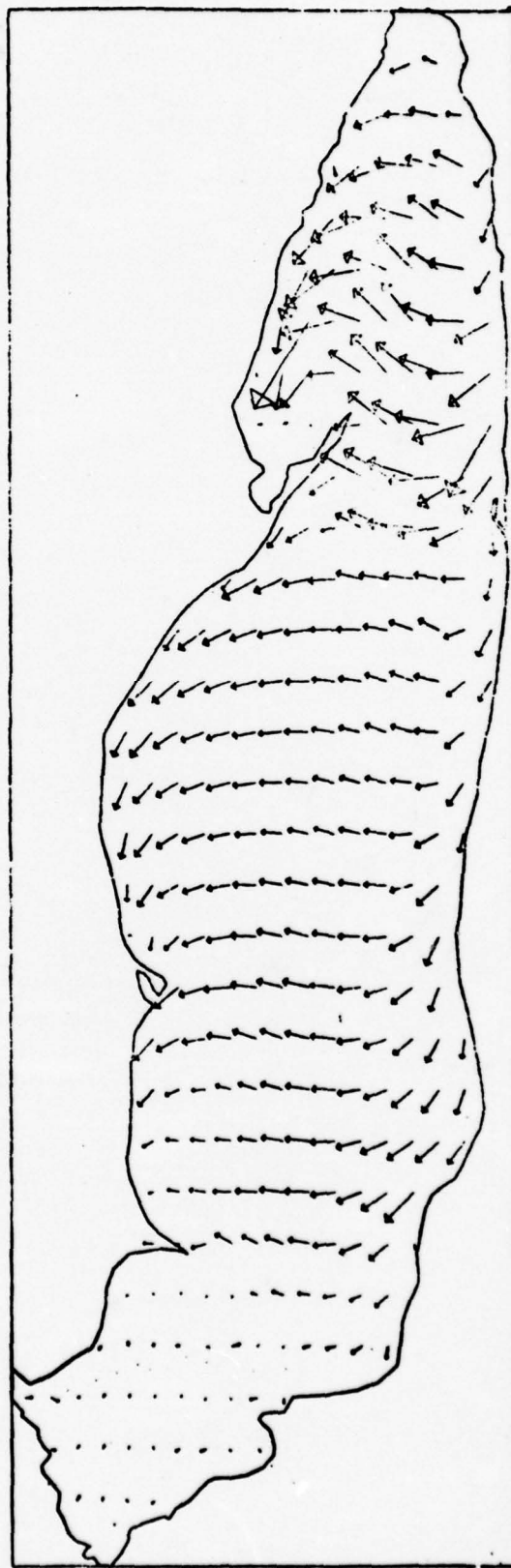


35 KPH.ESE

1.0

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 5.0 FT

VECTOR LENGTH = 1 FOOT/SEC = -

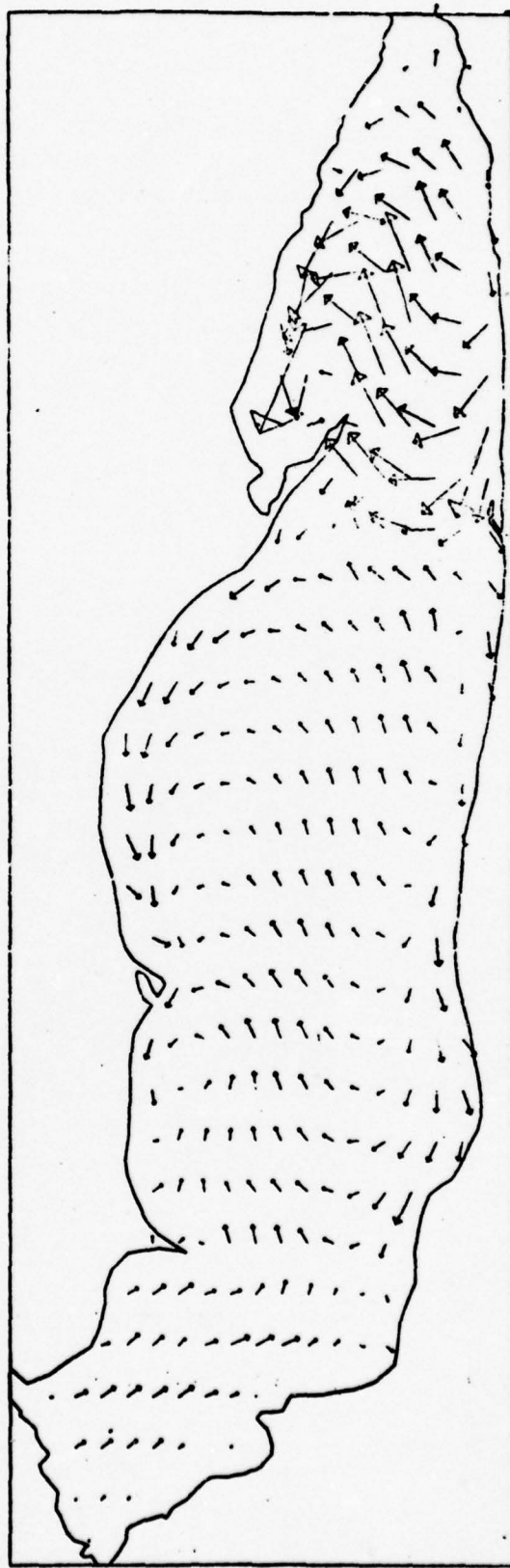


35 MPH. ESE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 10.0 FT

1.0

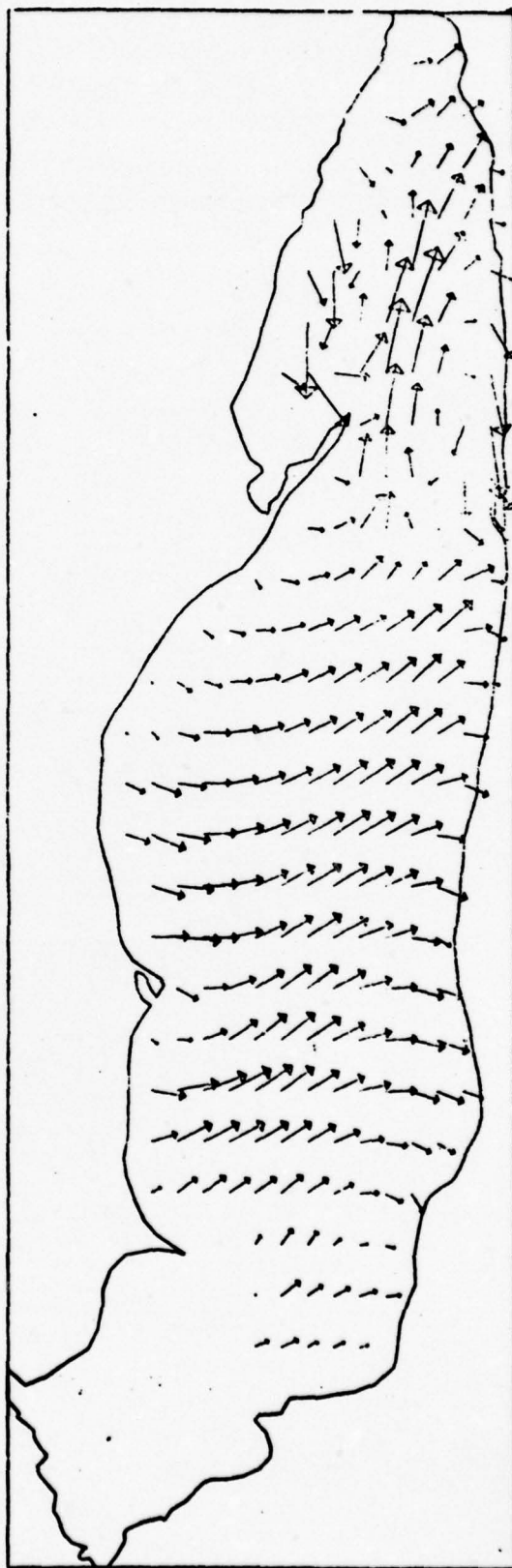
VECTOR LENGTH = 1 FOOT/SEC = —



35 MPH.ESE

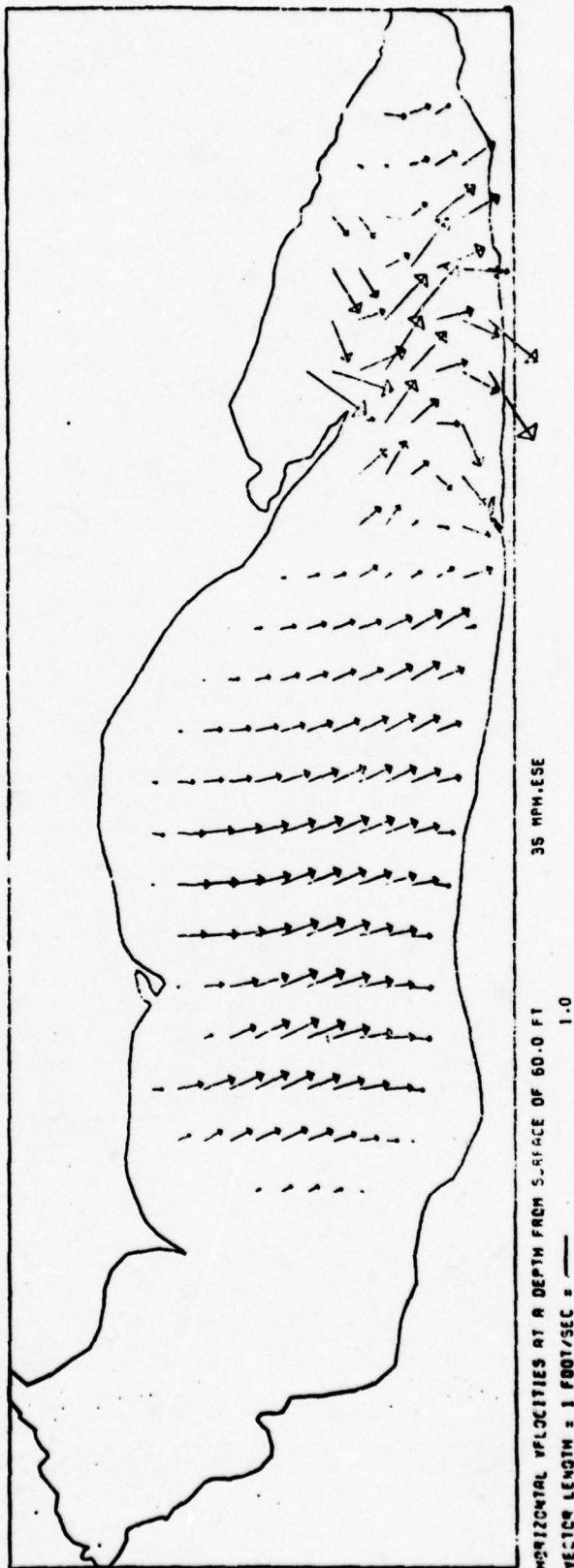
HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 20.0 FT

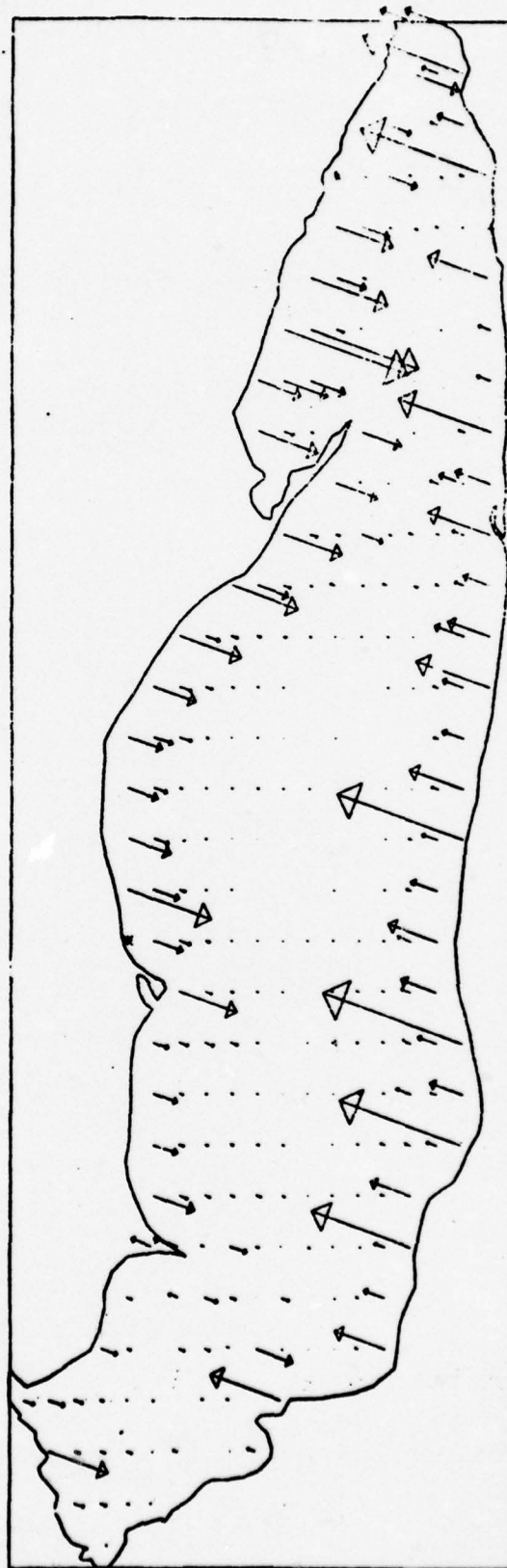
VECTOR LENGTH = 1 FOOT/SEC = 1.0



35 MPH.ESE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 40.0 FT
VECTOR LENGTH = 1 FOOT/SEC = ——— 1.0





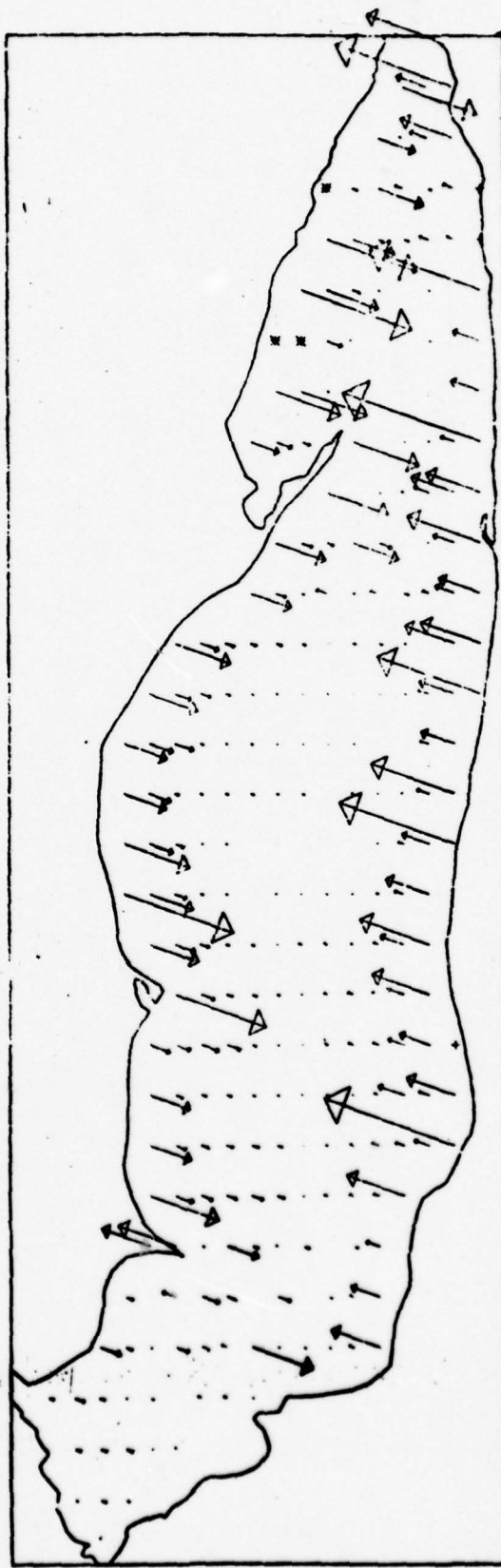
35 MPH/SEC

13.0 FT

6:00.0

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

VECTOR LENGTH = 1 FOOT/SEC = _____



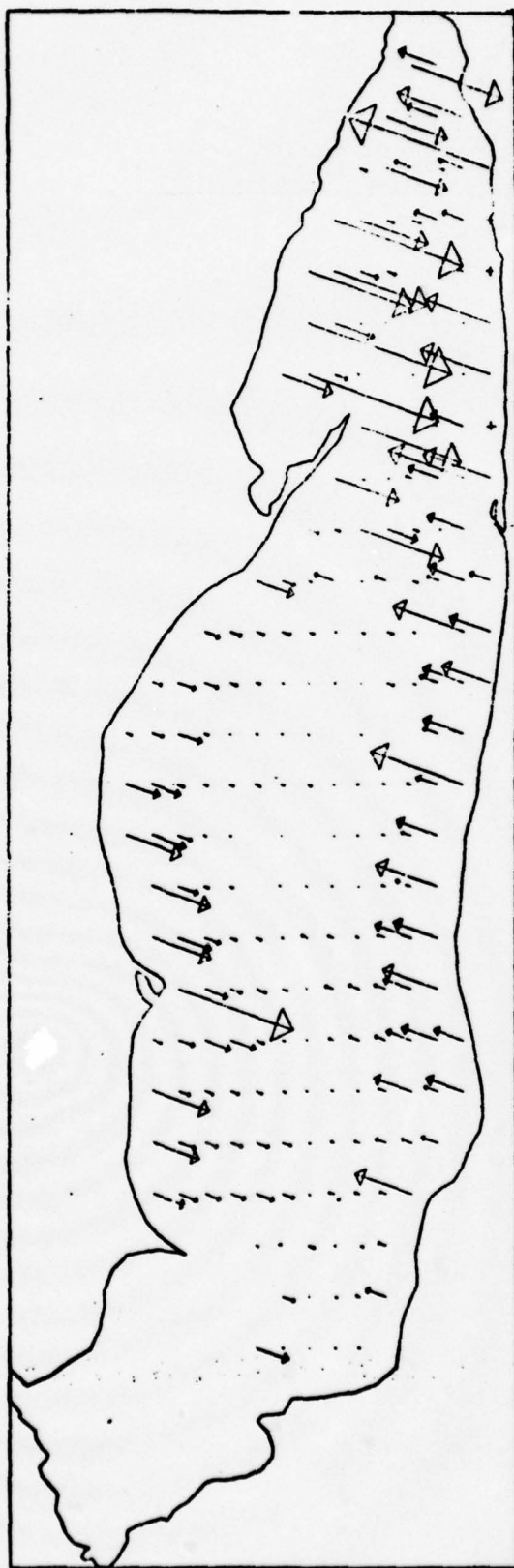
35 MPH.ESE

20.0 FT

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

800.0

VECTOR LENGTH = 1 FOOT/SEC =



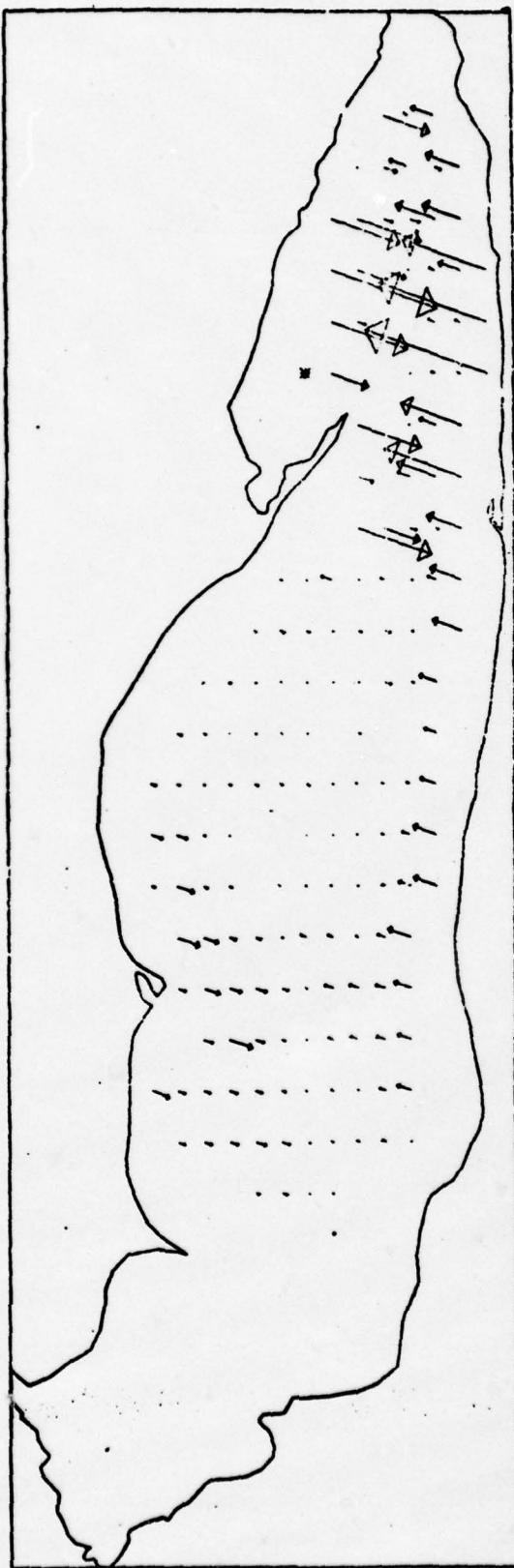
35 MPH, ESE

40.0 FT

800.0

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

VECTOR LENGTH = 1 FOOT/SEC =



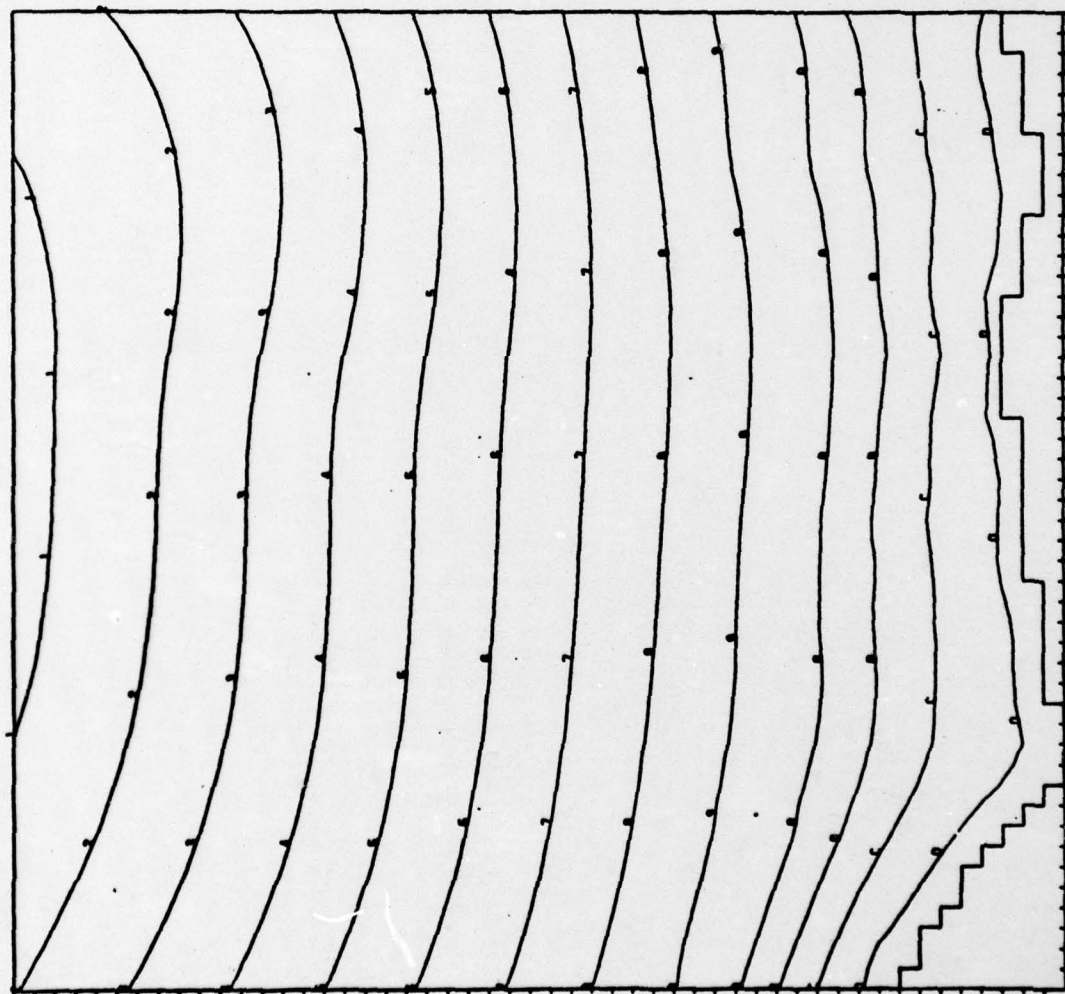
35 MPH.ESE

60.0 FT

#03.0

VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

VECTOR LENGTH = 1 F307/SEC =

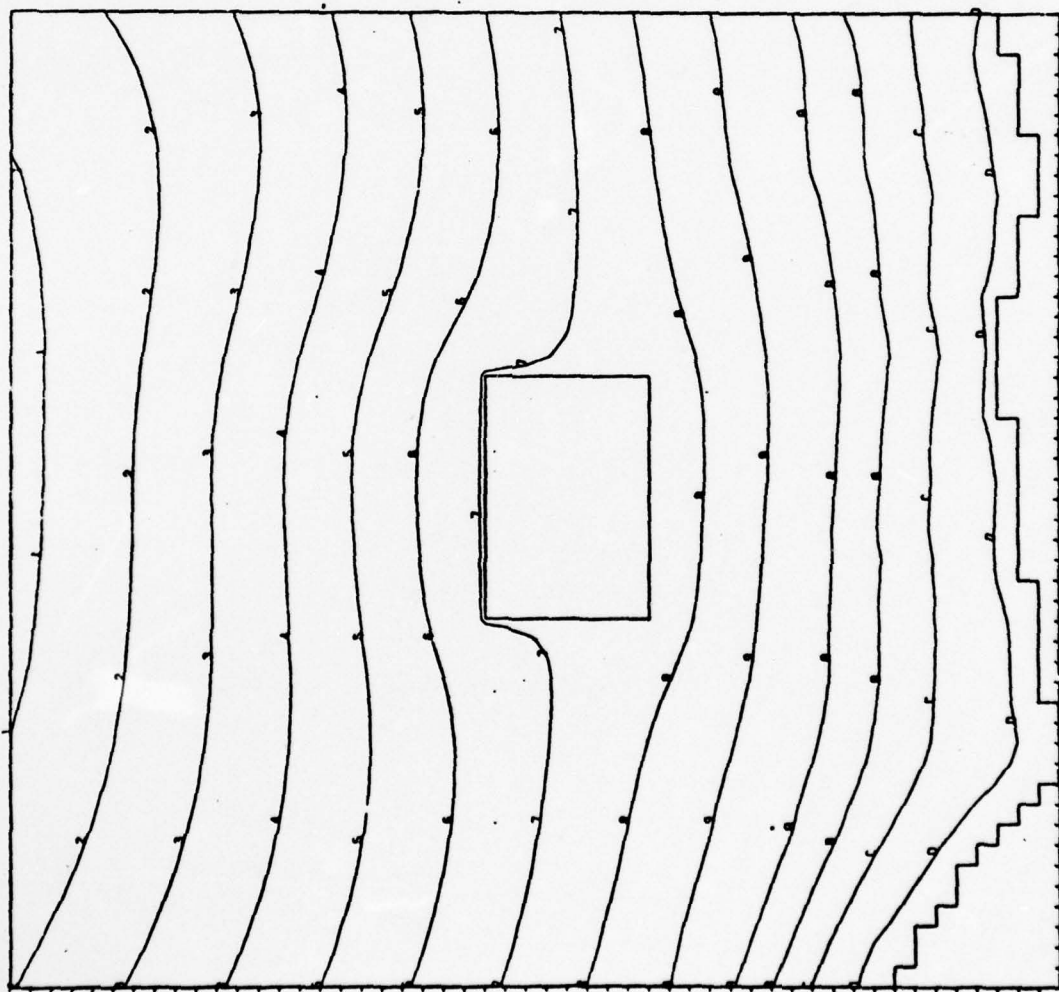


SYMBOL
 0 1 2 3 4 5 6 7 8 9
 10 11 12 13 14 15 16 17 18 19
 20 21 22 23 24 25 26 27 28 29
 30 31 32 33 34 35 36 37 38 39
 40 41 42 43 44 45 46 47 48 49
 50 51 52 53 54 55 56 57 58 59
 60 61 62 63 64 65 66 67 68 69
 70 71 72 73 74 75 76 77 78 79
 80 81 82 83 84 85 86 87 88 89
 90 91 92 93 94 95 96 97 98 99

CONTOUR LEVELS
 -5.500
 -5.000
 -4.500
 -4.000
 -3.500
 -3.000
 -2.500
 -2.000
 -1.500
 -1.000
 -0.500
 -0.100

HA=35MPH.ESE

CONTOURS OF STREAM FUNCTION FOR LAKE ERIE -- NEARSHORE

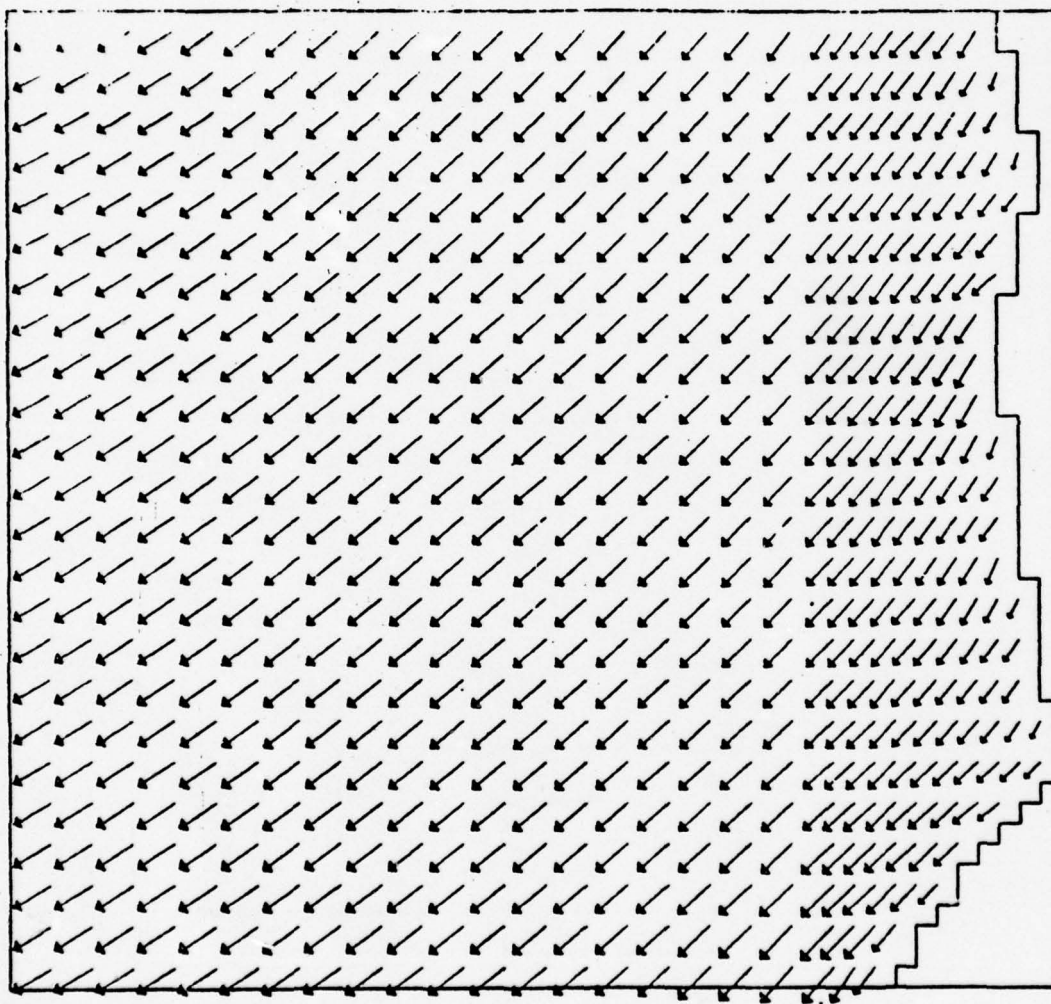


SYMBOLS

SYMBOLS	CONTOUR LEVELS
1	-6.500
2	-5.500
3	-4.500
4	-3.500
5	-2.500
6	-1.500
7	-1.000
8	-0.700
9	-0.400
10	-0.100

WA=35MPH.ESE

CONTOURS OF STREAM FUNCTION FOR LAKE ERIE -- NEARSHORE

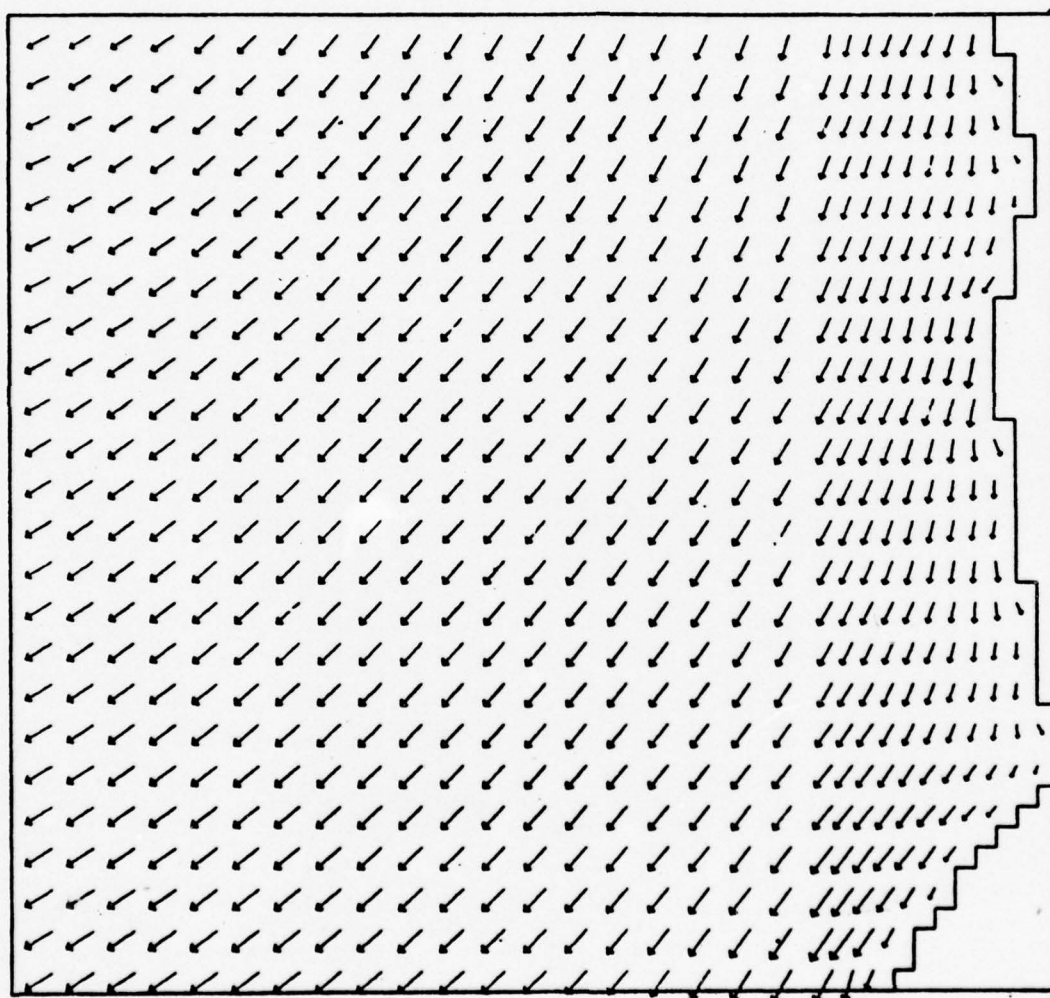


35 MPH.ESE

1.0

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 0.0 FT
VECTOR LENGTH = 1 FOOT/SEC = --

[Faint, illegible handwritten text]

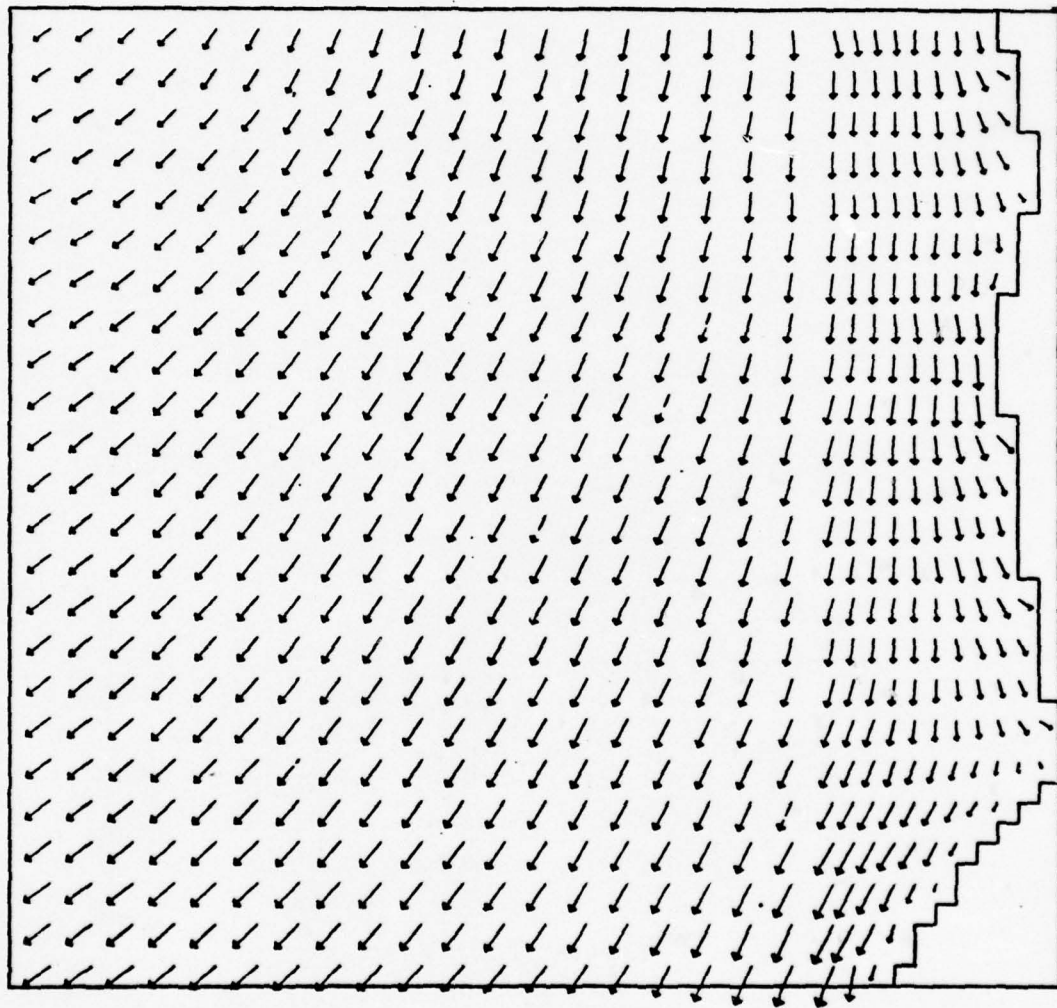


35 MPH·ESE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 10.0 FT

1.0

VECTOR LENGTH = 1 FOOT/SEC = —

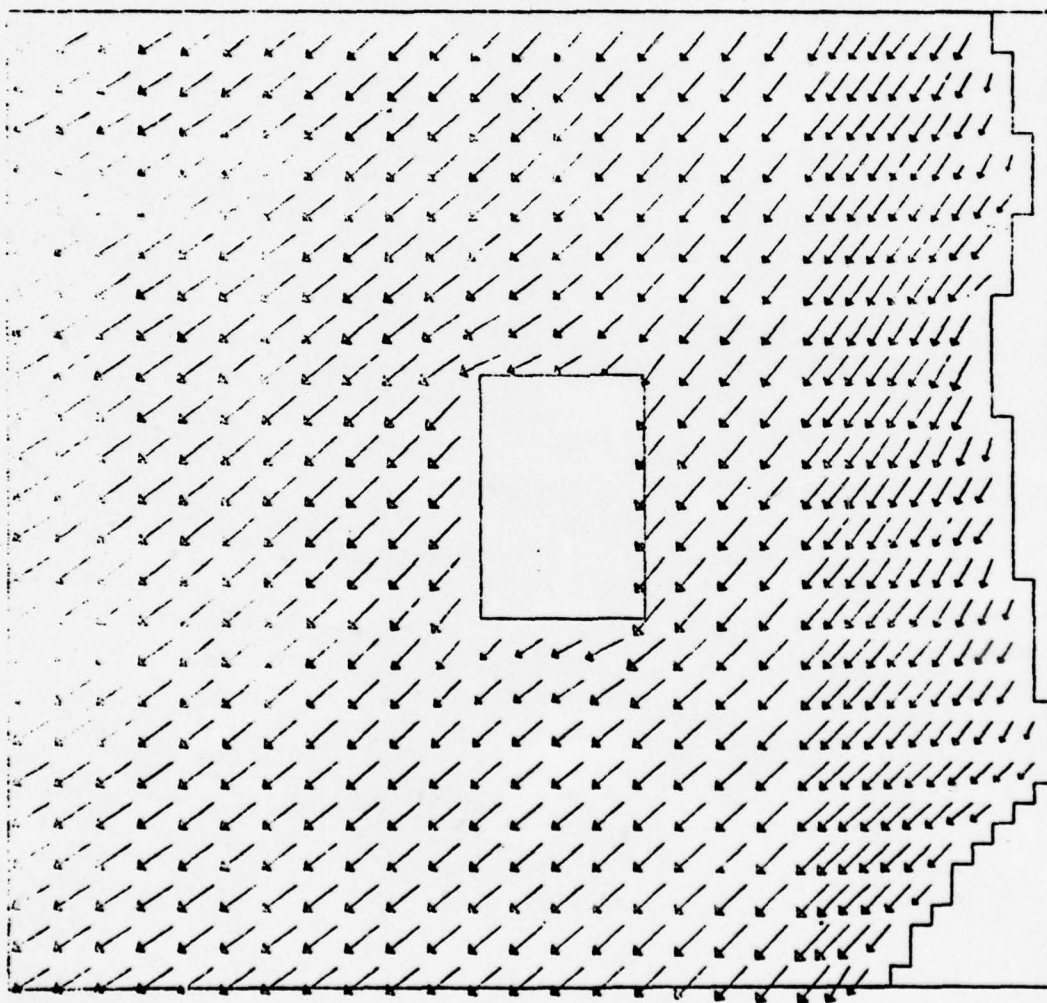


35 MPH-ESE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 15.0 FT

VECTOR LENGTH = 1 FOOT/SEC = —

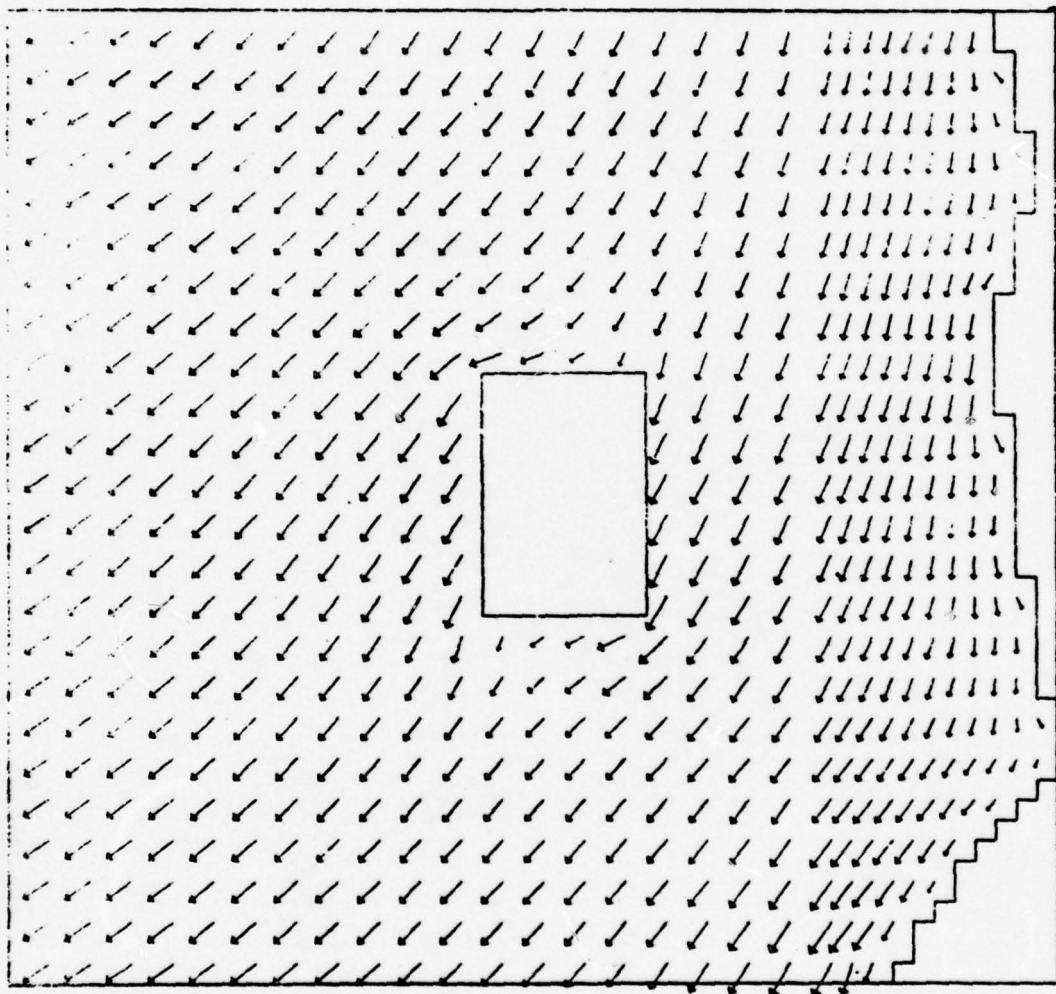
1.0



35 MPH, FSE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 0.0 FT

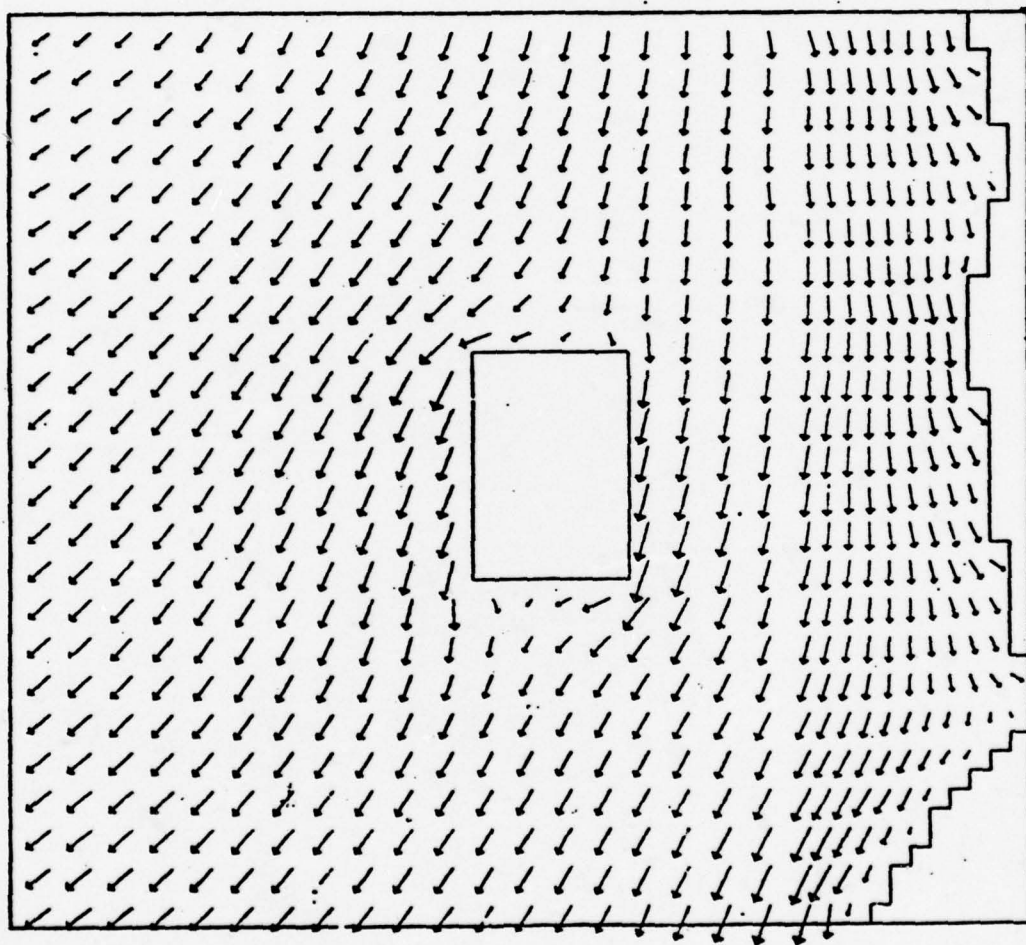
VECTOR LENGTH = 1 FOOT/SEC = 1.0



35 MPH ESE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 10.0 FT
VECTOR LENGTH = 1 FOOT/SEC = —

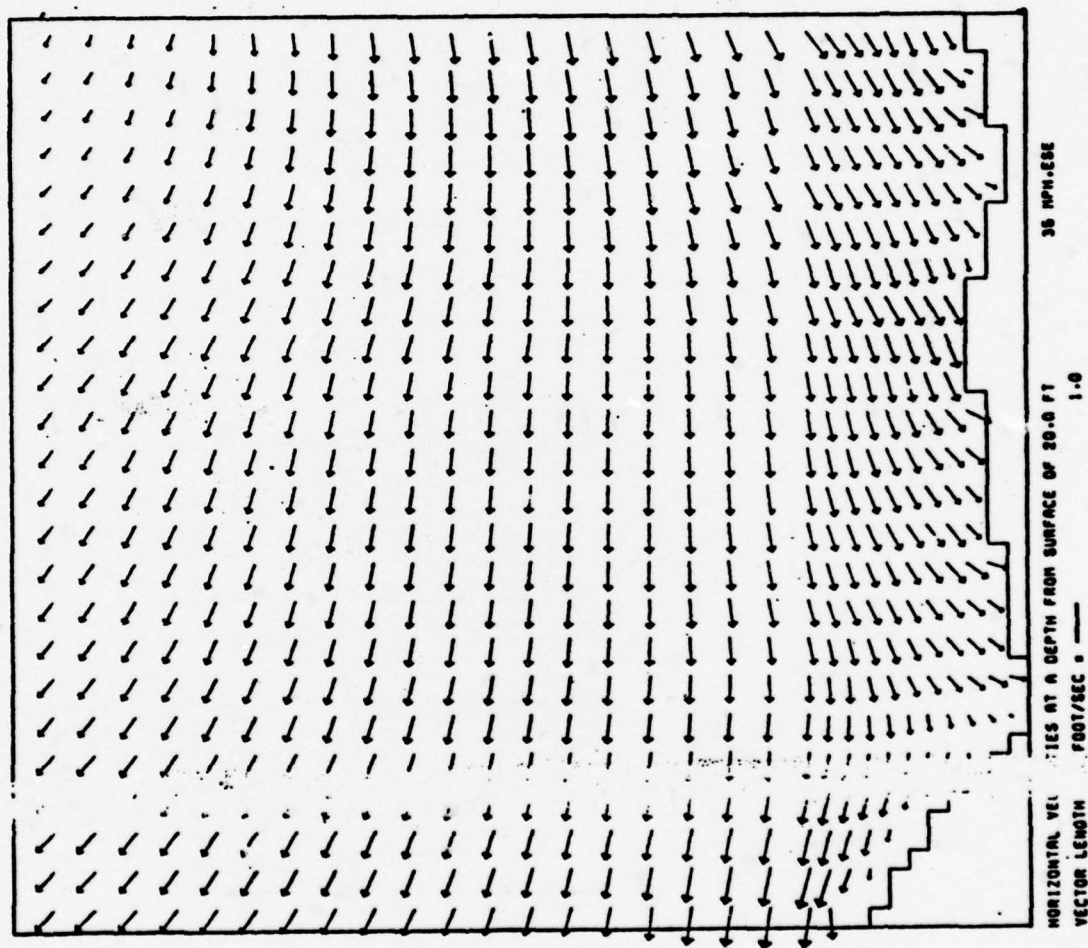
1.0

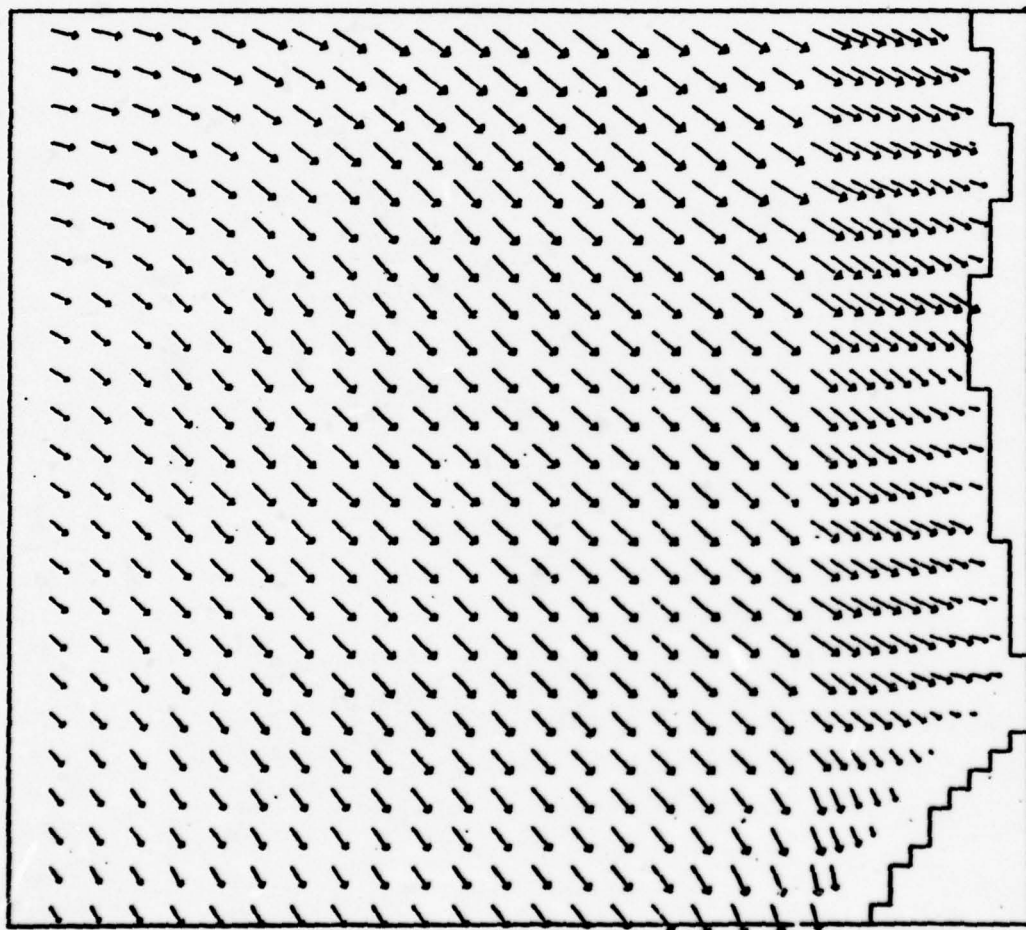


38 MPH-ESE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 10.0 FT

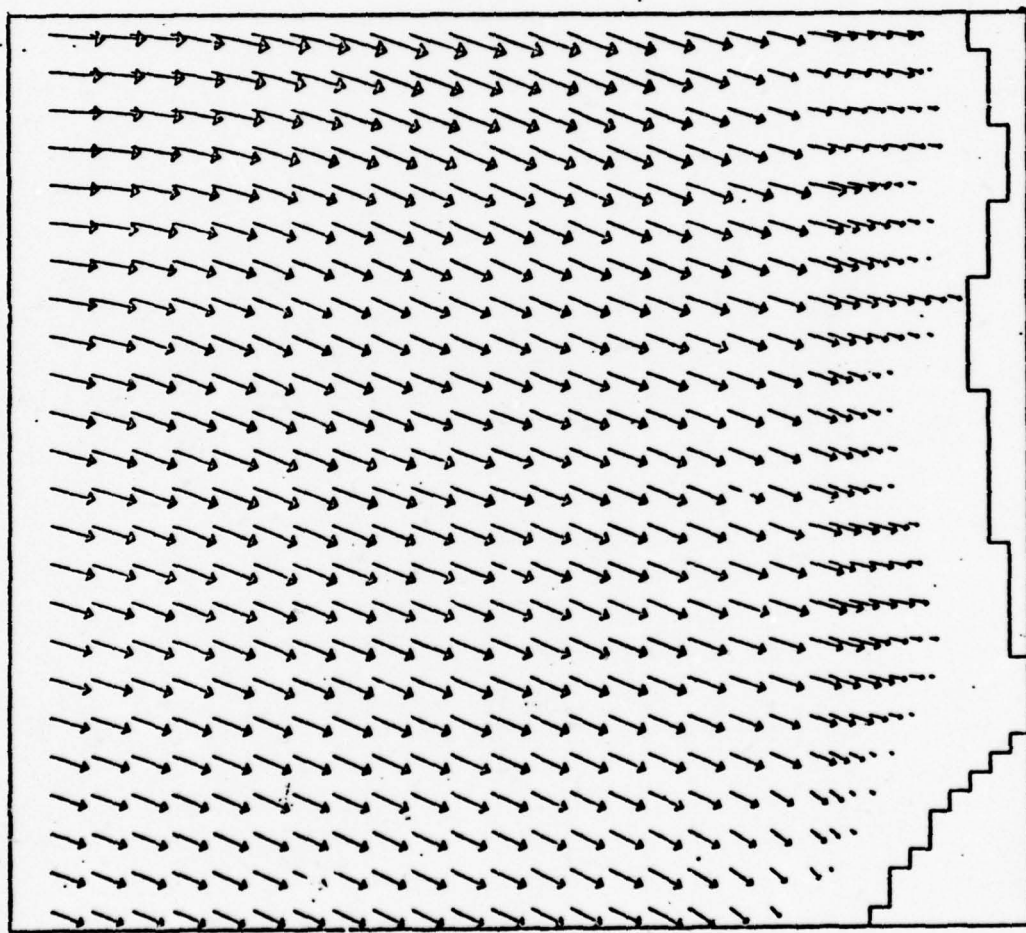
VECTOR LENGTH = 1 FOOT/SEC = — 1.0





30 MPH-EDG

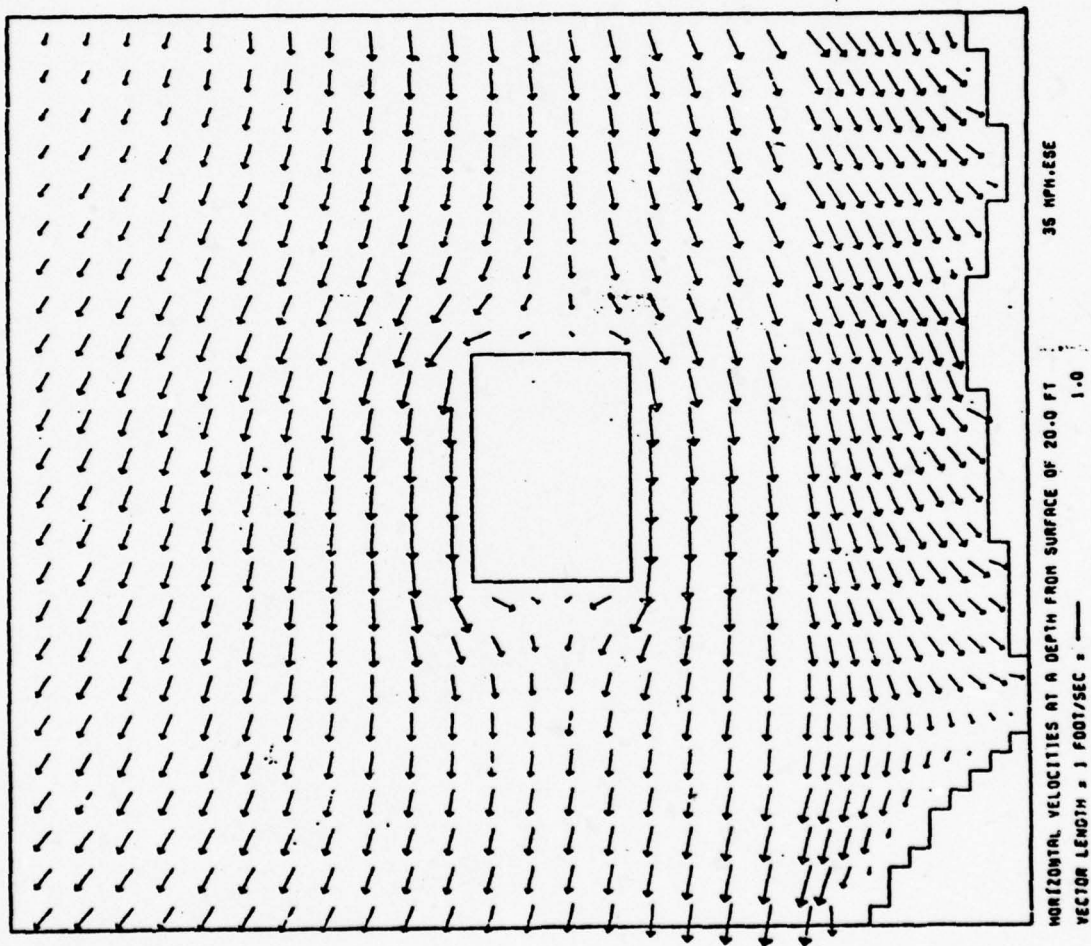
HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 30.0 FT
VECTOR LENGTH = 1 FOOT/SEC = 1.0

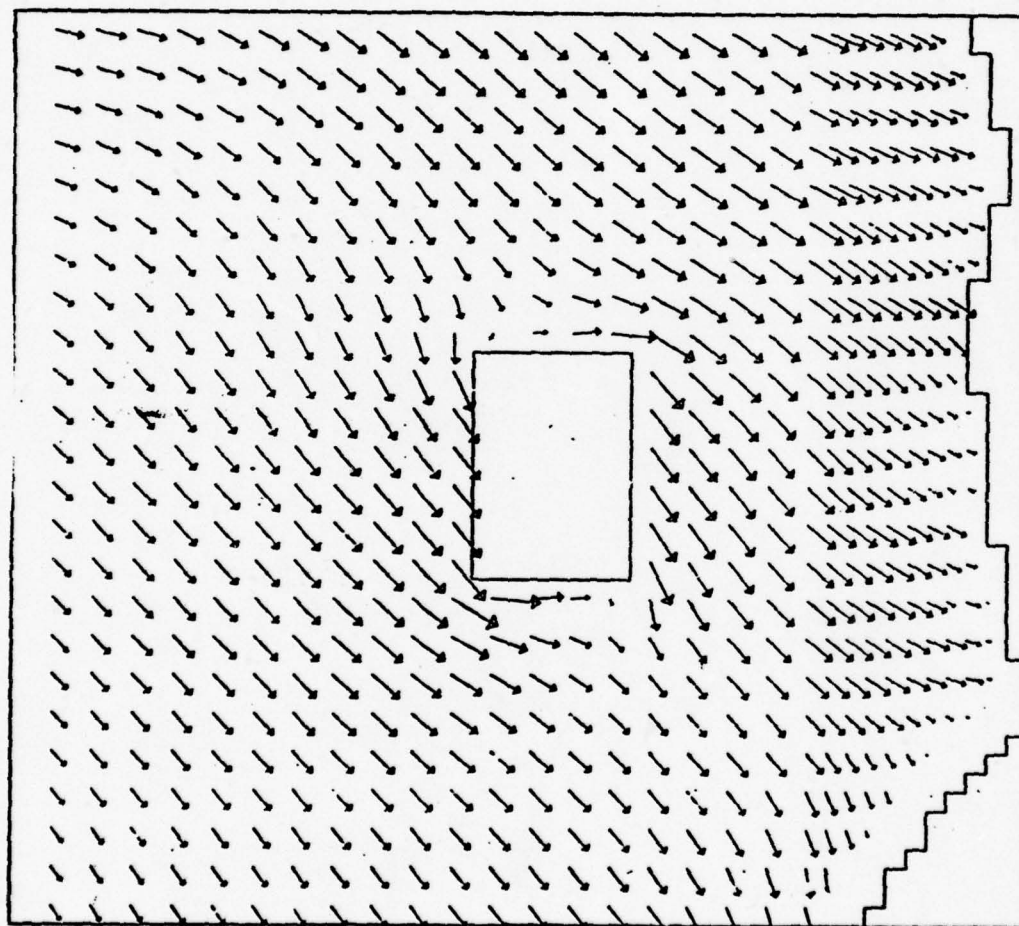


35 MPH, ESE

HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 40.0 FT

VECTOR LENGTH = 1 FOOT/SEC = ——— 1.0

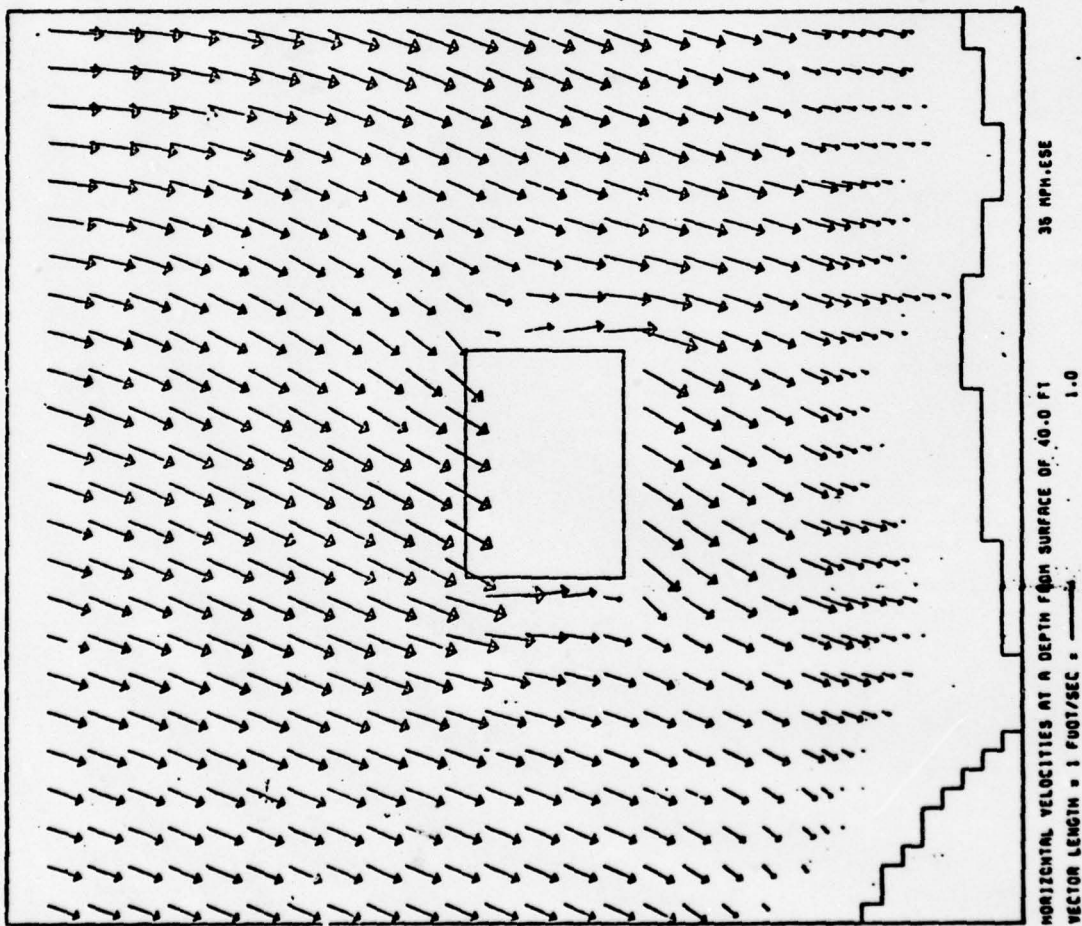


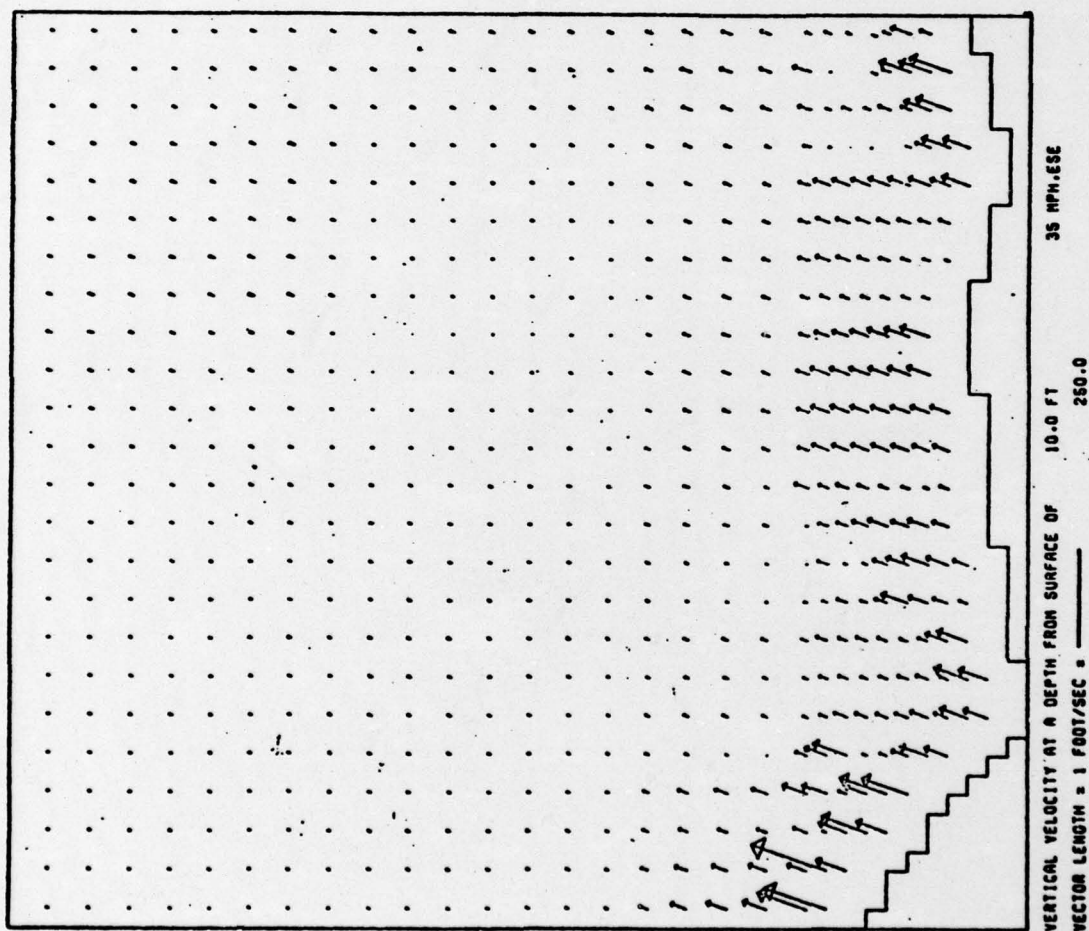


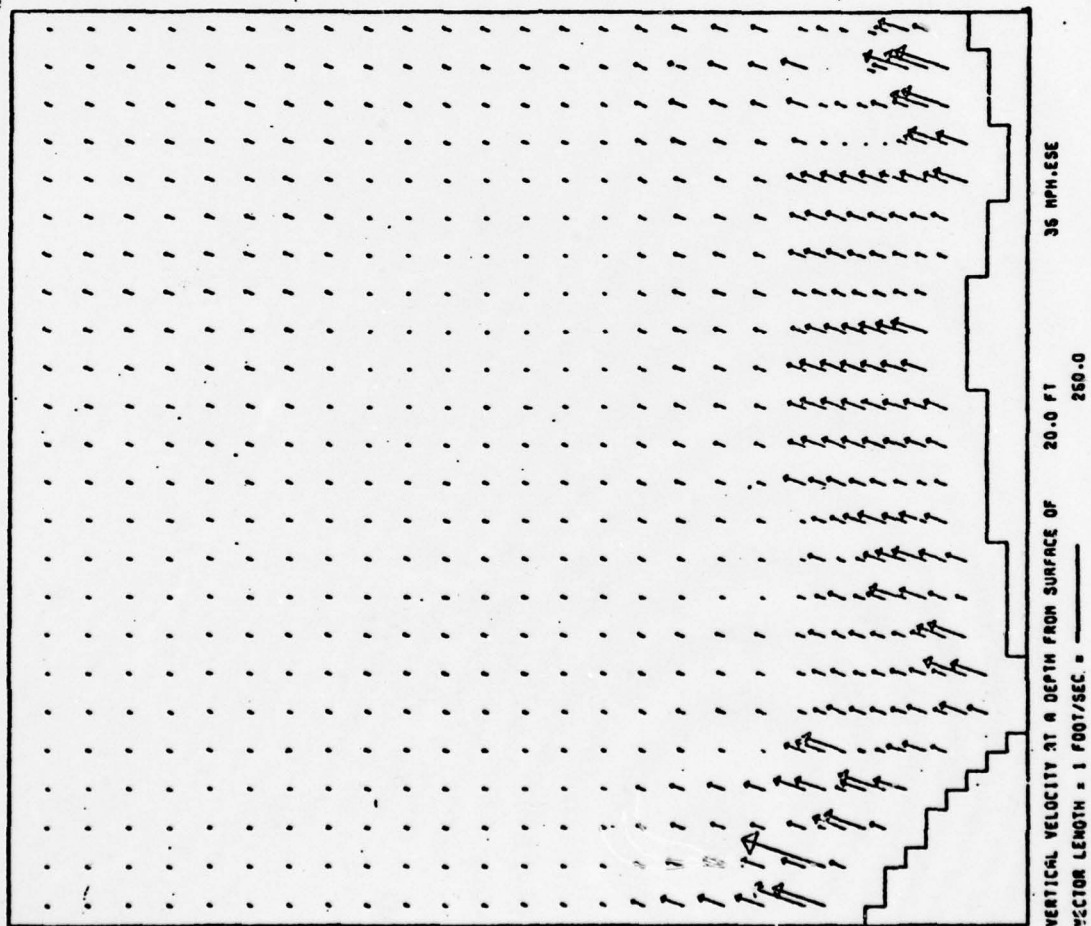
35 MPH.ESE

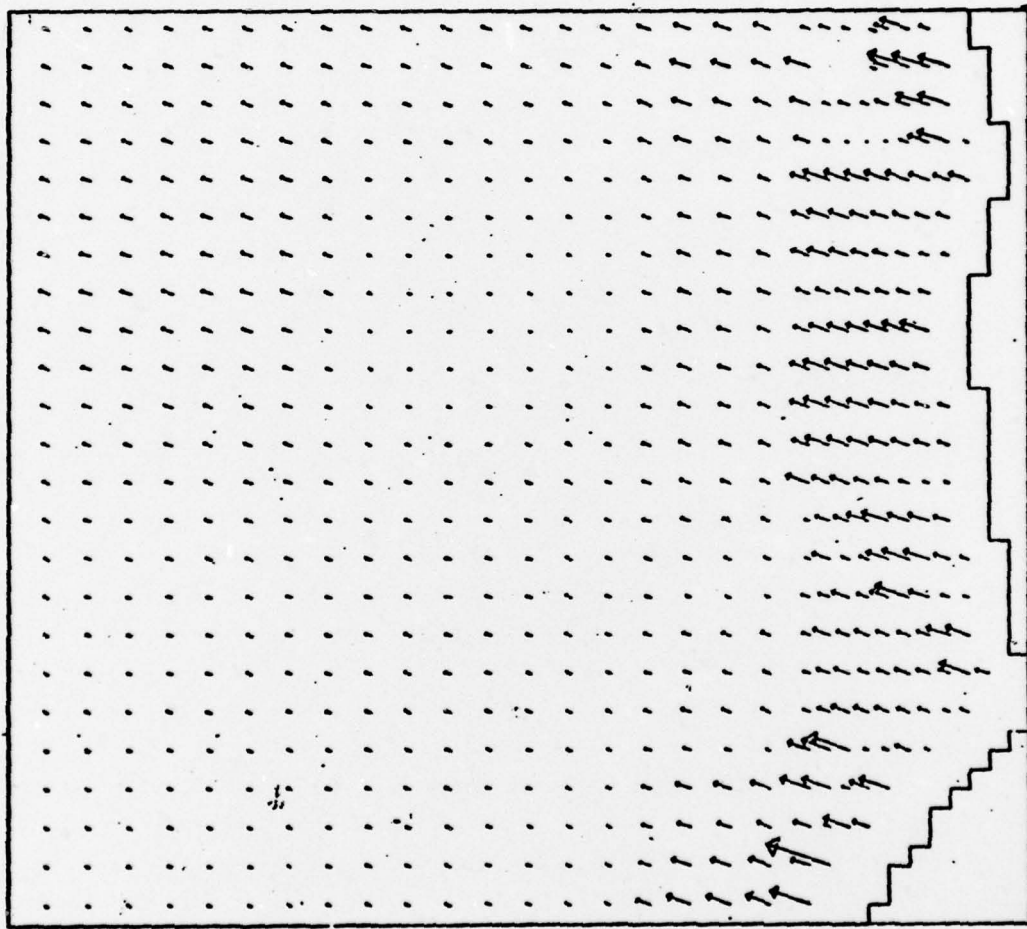
HORIZONTAL VELOCITIES AT A DEPTH FROM SURFACE OF 30.0 FT
VECTOR LENGTH = 1 FOOT/SEC = ———

1.0









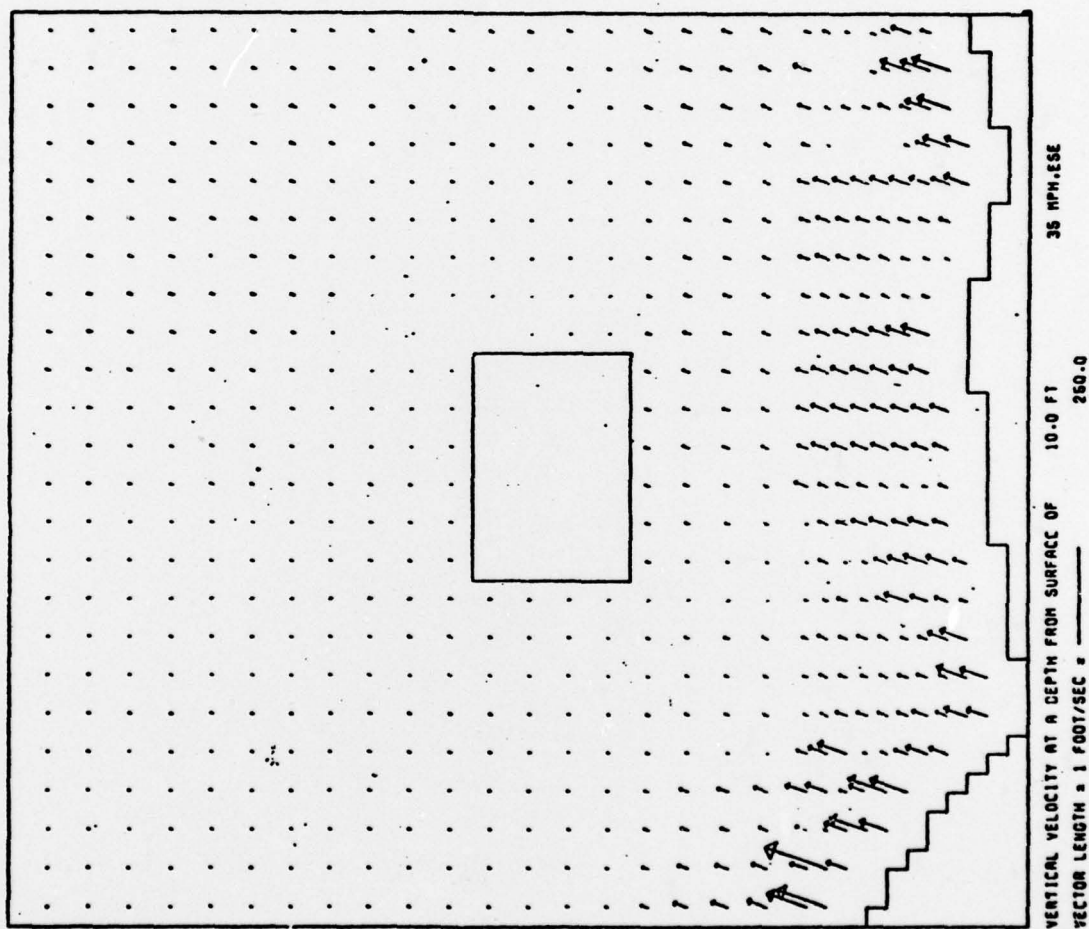
35 MPH.ESE

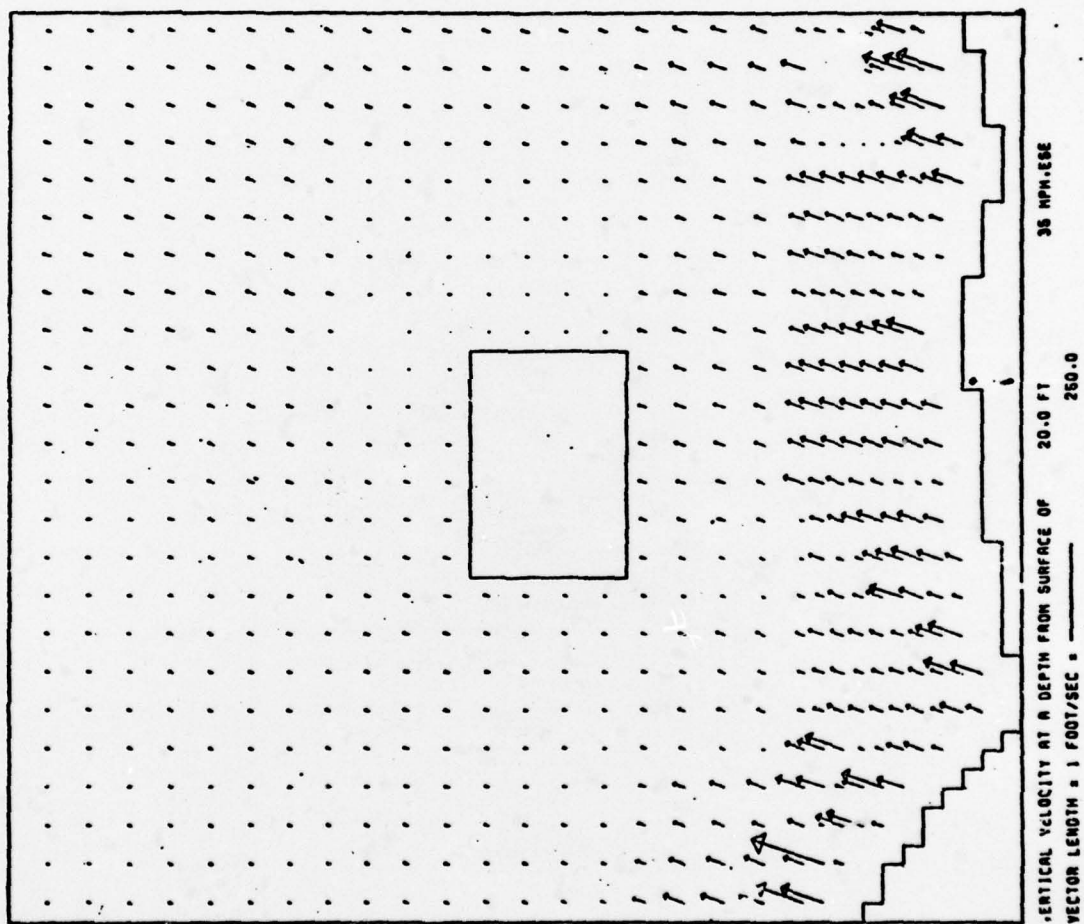
30.0 FT

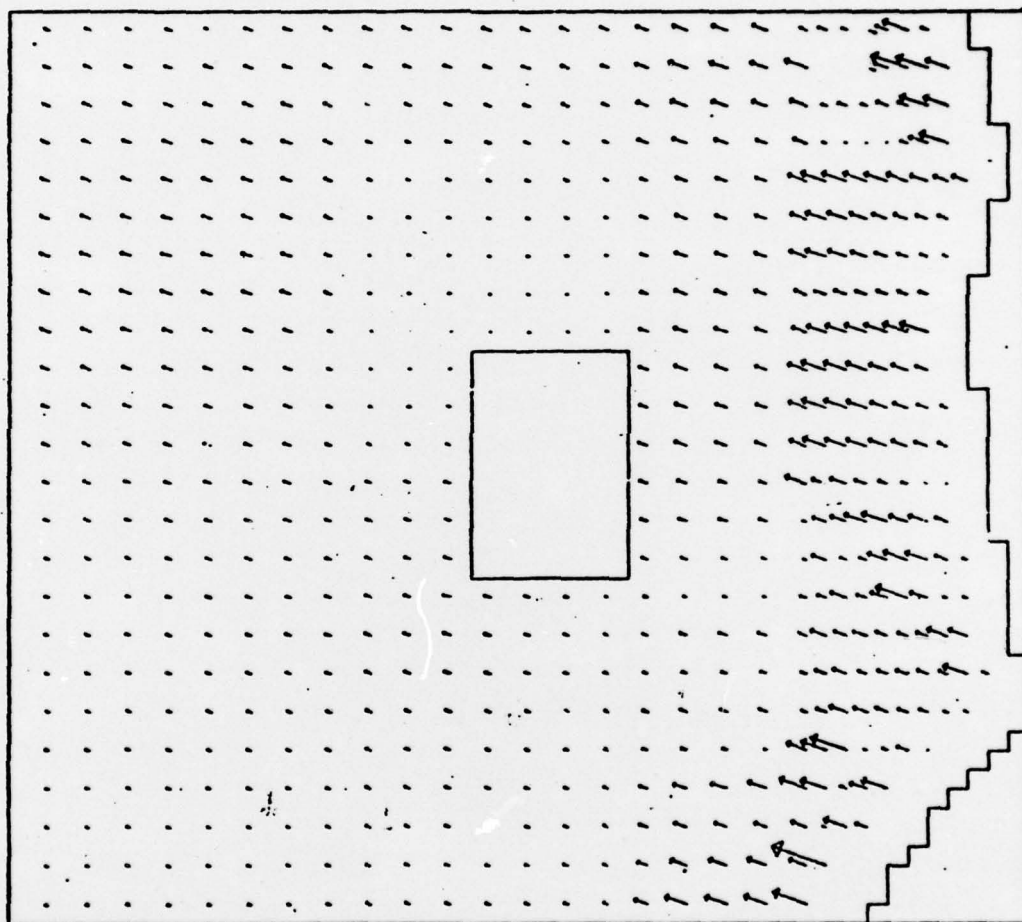
VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

250.0

VECTOR LENGTH = 1 FOOT/SEC =







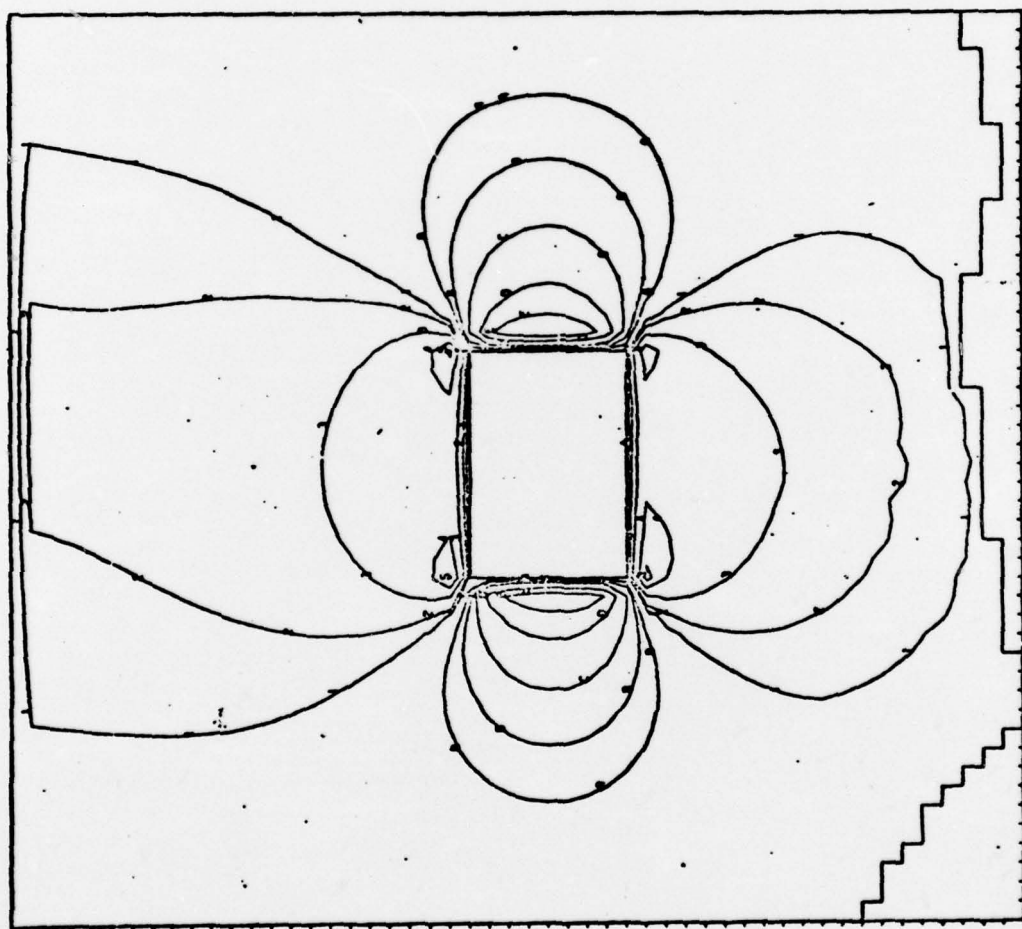
36 NPM-EE

30.0 FT

250.0

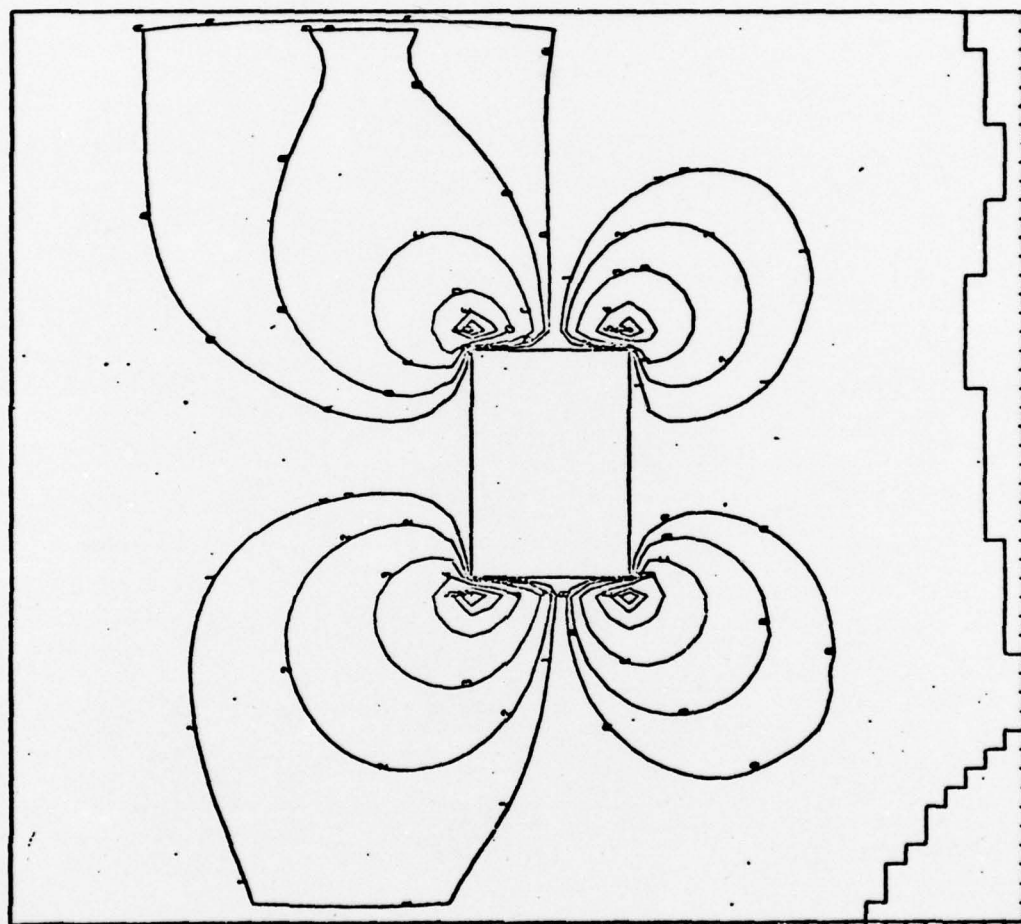
VERTICAL VELOCITY AT A DEPTH FROM SURFACE OF

VECTOR LENGTH = 1 FOOT/SEC =



CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

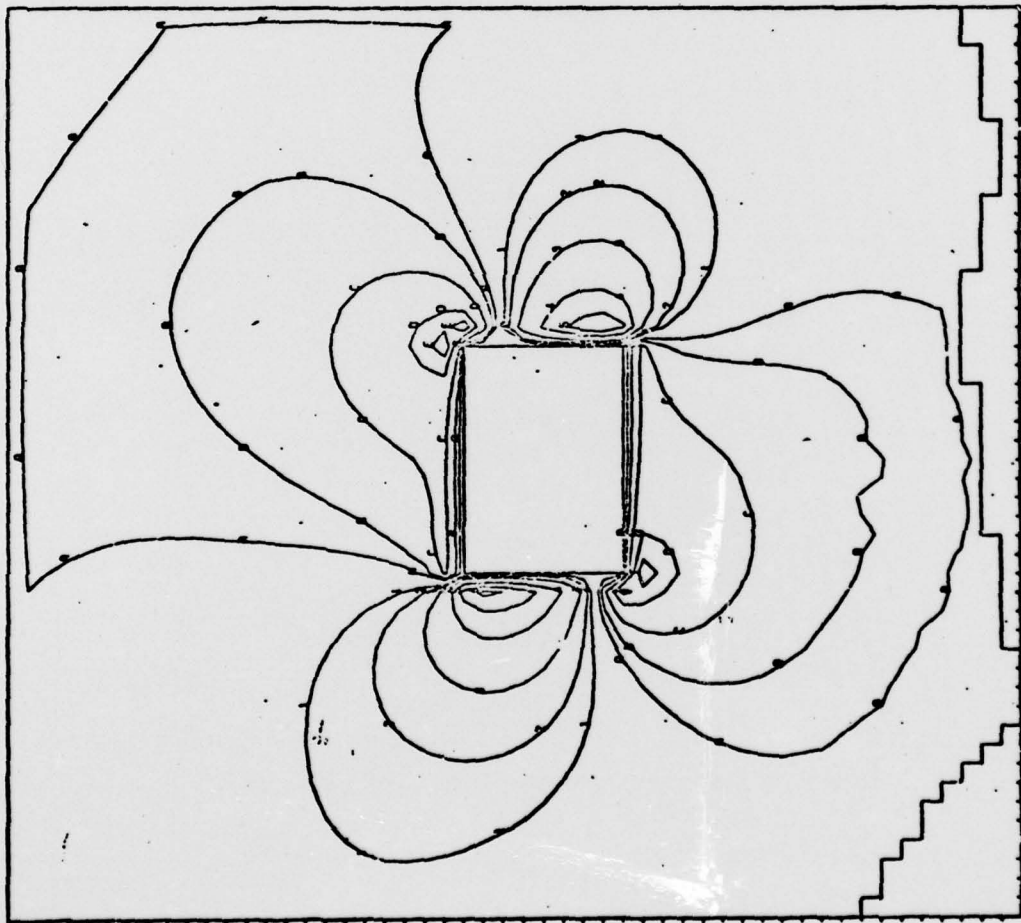
U-D=0.4-35ESE



CONTOUR LEVEL

CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

V.D=0.W=35SE

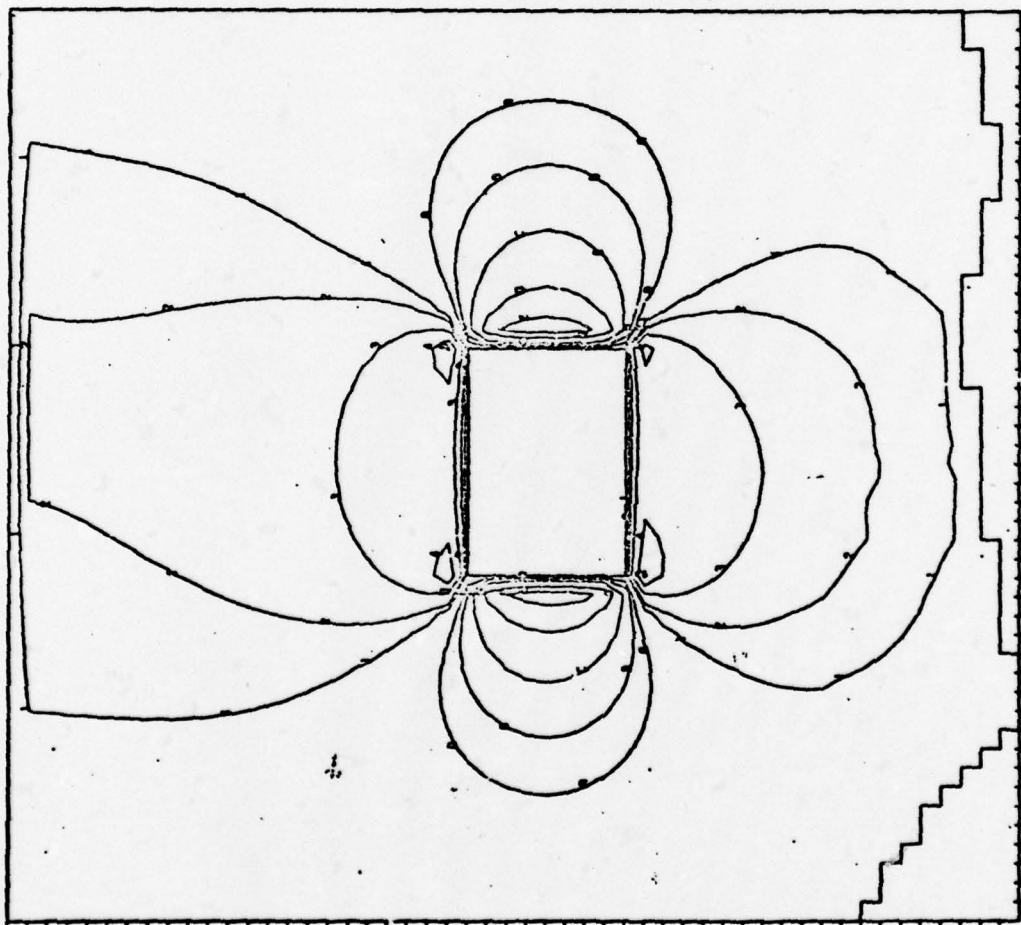


SYMBOLS
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

CONTOUR LEVELS
 0.050
 0.100
 0.200
 0.400
 0.600
 0.800
 1.000
 1.200
 1.400
 1.600
 1.800
 2.000
 -0.050
 -0.100
 -0.200
 -0.400
 -0.600
 -0.800
 -1.000
 -1.200
 -1.400
 -1.600
 -1.800
 -2.000

N.O.O.M=35ESE

CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

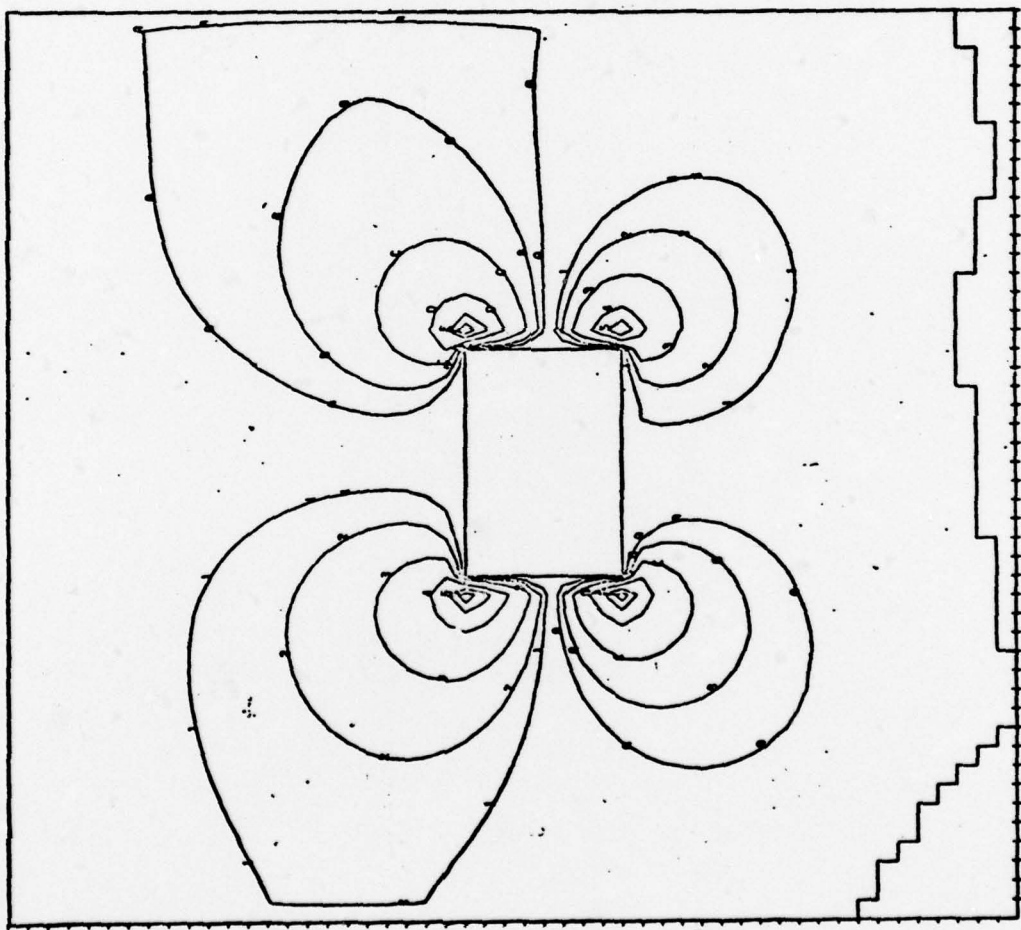


SYMBOLS
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

CONTOUR LEVELS
0.050
0.100
0.200
0.400
0.600
0.800
1.000
1.200
1.400
1.600
1.800
2.000
-0.050
-0.100
-0.200
-0.400
-0.600
-0.800
-1.000
-1.200
-1.400
-1.600
-1.800
-2.000

CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

U.D=15.H=35ESE

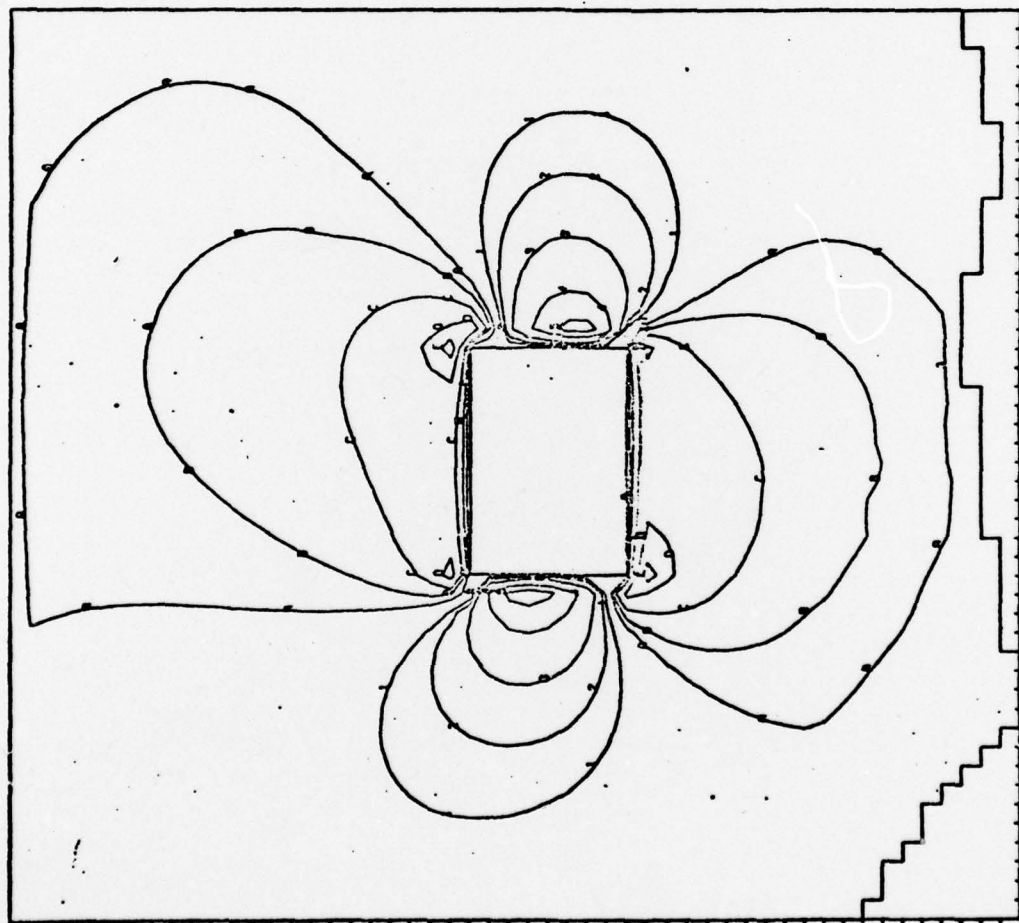


SYMBOLS
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

CONTOUR LEVELS
 0.050
 0.100
 0.200
 0.300
 0.400
 0.500
 0.600
 0.800
 1.000
 1.500
 2.000
 -0.050
 -0.100
 -0.200
 -0.300
 -0.400
 -0.500
 -0.600
 -0.800
 -1.000
 -1.500
 -2.000

V.D=15.M=35ESE

CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE



SYMBOLS
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

CONTOUR LEVELS
 0.050
 0.100
 0.200
 0.400
 0.600
 0.800
 1.000
 1.200
 1.400
 1.600
 1.800
 2.000
 -0.050
 -0.100
 -0.200
 -0.400
 -0.600
 -0.800
 -1.000
 -1.200
 -1.400
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 -1.800
 -2.000

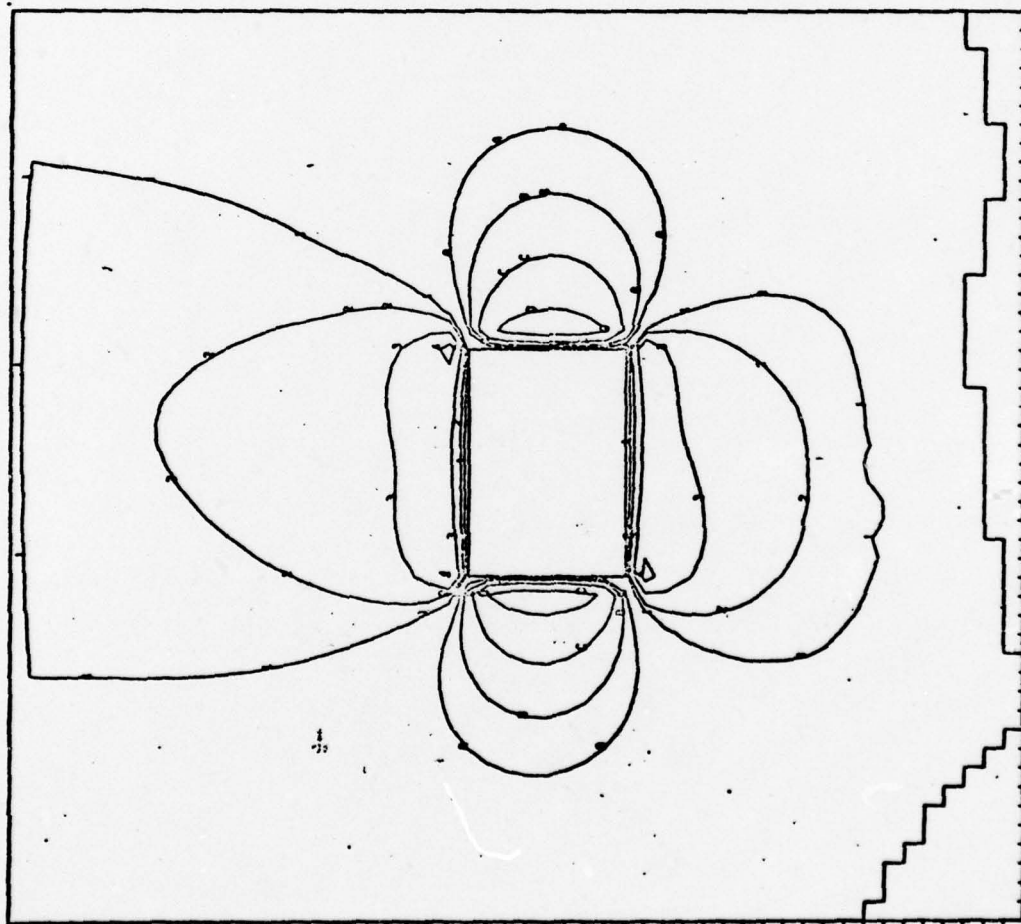
CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

M.D=15.N=36ESE

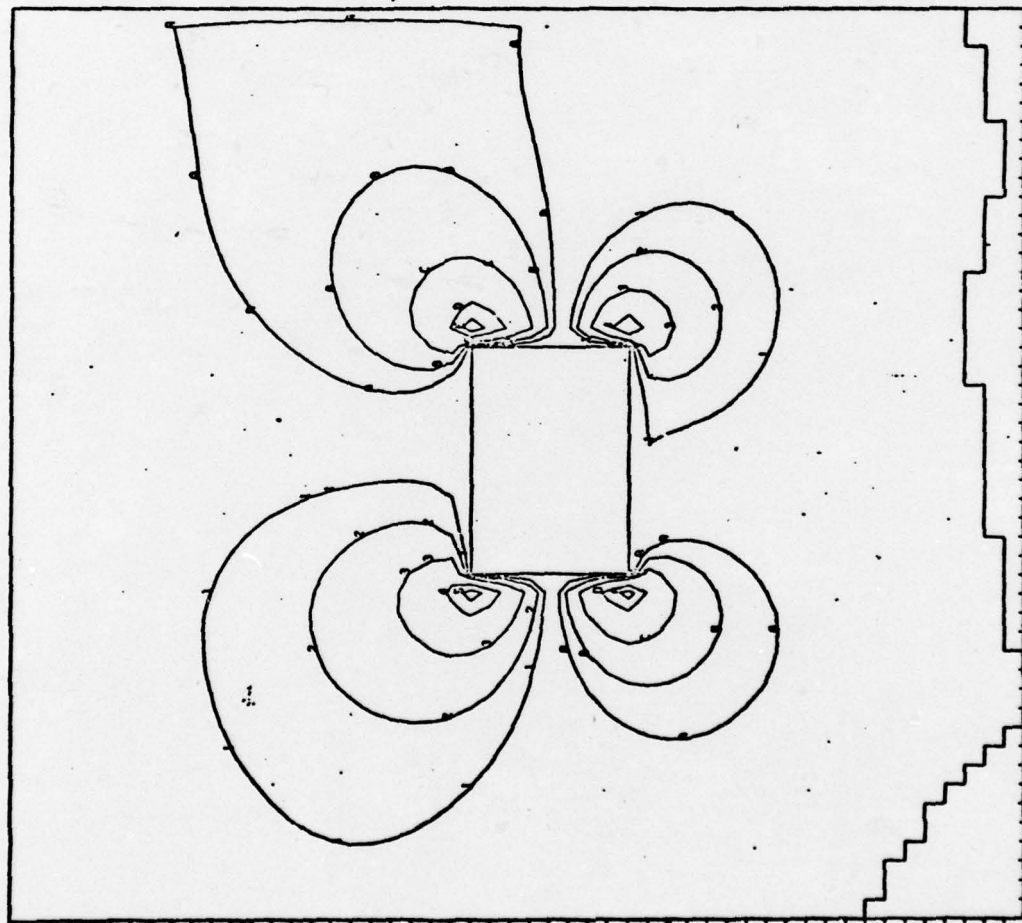
SYMBOLS

0.050
0.100
0.200
0.400
0.600
0.800
1.000
1.600
2.000
-0.050
-0.100
-0.200
-0.400
-0.600
-0.800
-1.000
-1.500
-2.000

U.O=30.W=35SE



CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE



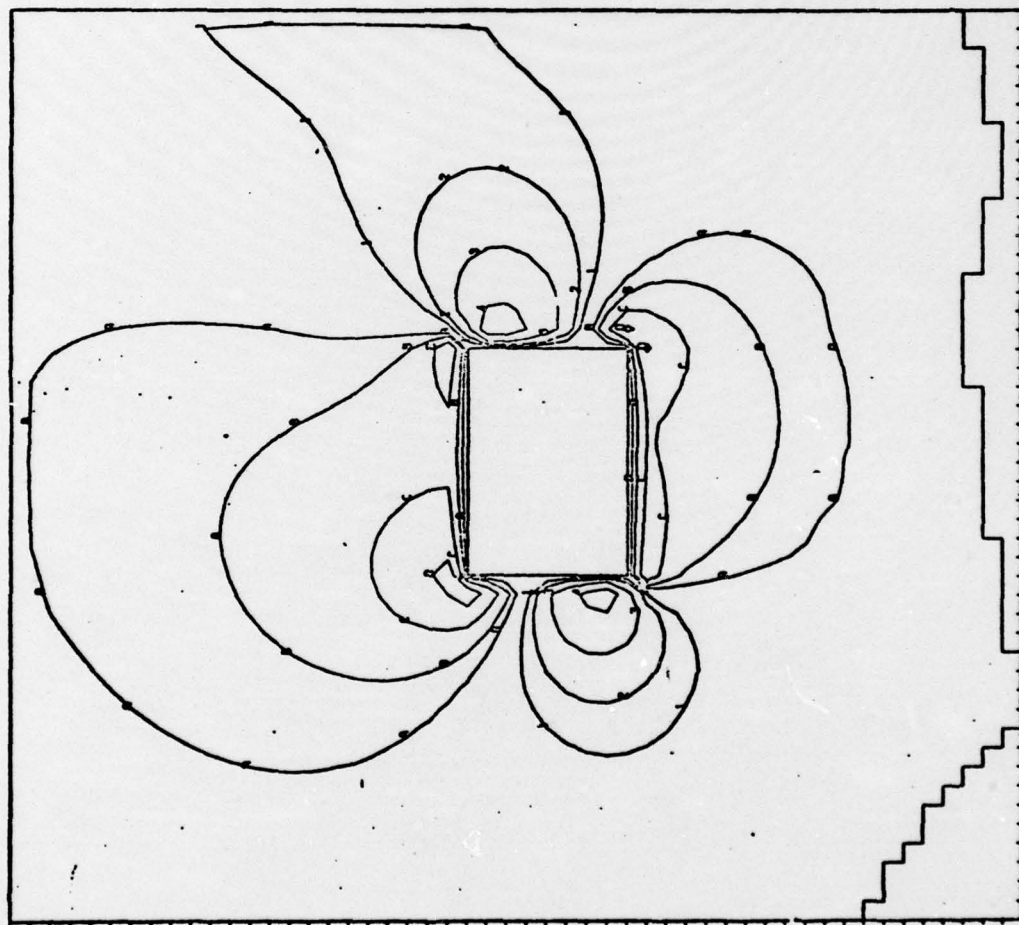
CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

V.D=30.H=35ESE

SYMBOLS

CONTOUR LEVELS

0.050
0.100
0.200
0.400
0.600
0.800
1.000
1.500
2.000
-0.050
-0.100
-0.200
-0.400
-0.600
-0.800
-1.000
-1.500
-2.000



SYMBOLS
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

CONTOUR LEVELS
 0.050
 0.100
 0.200
 0.400
 0.600
 0.800
 1.000
 1.200
 1.400
 1.600
 1.800
 2.000
 -0.050
 -0.100
 -0.200
 -0.400
 -0.600
 -0.800
 -1.000
 -1.200
 -1.400
 -1.600
 -1.800
 -2.000

M.O=30.H=35ESE

CONTOURS OF DIFFERENCES IN VELOCITY COMPONENTS OR MAGNITUDE

In accordance with ER 70-2-3, paragraph 6c(1)(b),
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Durham, Donald L

Lake Erie International Jetport model feasibility investigation; Report 17-7: Results of numerical steady-state, wind-driven circulation analysis, by Donald L. Durham [and] H. Lee Butler. Vicksburg, U. S. Army Engineer Waterways Experiment Station, 1976.

1 v. (various pagings) illus. 27 cm. (U. S. Waterways Experiment Station. Miscellaneous paper H-76-3, Report 17-7)

Prepared for Lake Erie Regional Transportation Authority, Cleveland, Ohio, under Task 17 of LERTA Second-Phase Airport Feasibility Study.

Includes bibliography.

1. Airports. 2. Lake currents. 3. Lake Erie. 4. Mathematical models. 5. Wind waves. I. Butler, H. Lee, joint author. II. Lake Erie Regional Transportation Authority. III. Title. (Series: U. S. Waterways Experiment Station. Vicksburg, Miss. Miscellaneous paper H-76-3, Report 17-7) TA7.W34m no.H-76-3 Report 17-7